ABSTRACT

Title of Dissertation: A ROLES APPROACH TO CONFLICT STRATEGIES: MODELING THE EFFECTS OF SELF- AND OTHER-ROLE ENACTMENT ON CONFLICT STRATEGIES THROUGH GOALS AND EMOTION

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This dissertation addresses how, in a conflict situation, individuals enact different roles and how their responses to the other party's role enactment affect the strategies they choose to handle the conflict. A model is proposed to delineate the cognitive and emotional process through which the focal individual and the other party's role enactment affect the focal individual's conflict strategies.

The model was first examined using the data based on participants' recall of a past conflict and their answers to questions that assessed behaviors (N = 265). Next, a laboratory experiment was used to test a model in which a conflict was induced and each participant interacted with a confederate to complete a decision making task (N = 261). The focal person's obligation to his or her general role and the other party's expectation violations were manipulated. Participants' embracement of their situated roles, perceived goal importance, emotion, and the use of four types of conflict strategies were measured.

Results indicated that obligation predicted the use of relational-protective strategies through the mediating effect of relational goal importance. Embracement of the situated role was found to directly predict the use of a relational-protective confronting strategy but indirectly predict the use of a relational-disruptive confronting strategy through situated goal importance. The other's expectation violation changed the perceived goal importance and the emotion of the focal individual, which predicted the use of relational-disruptive strategies. However, the main reason for the effect of expectation violation on relational-disruptive strategies was individuals' direct reaction to the other's behavior rather than anger. Interpretations and implications of the results, the limitations of the study, theoretical and methodological contributions of the study, and future directions were discussed.

A ROLES APPROACH TO CONFLICT STRATEGY: MODELING THE EFFECTS OF SELF-AND OTHER-ROLE ENACTMENT ON CONFLICT STRATEGIES THROUGH GOALS AND EMOTION

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Dedication

This dissertation is dedicated to my parents, Jianmin Xie and Jinyu Luo, my husband, Yulei Luo, and my grandpatents, Bingfeng Xie and Xueying Chen, whose love and support are always with me.

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CHAPTER I

Introduction

A common theme that has emerged from research on conflict management is that individuals often take relationship into consideration when handling conflicts with others. Relational concern has been theorized in the conflict literature as a primary predictor of differences in conflict management styles at both the cultural and individual levels of analysis (Kim & Leung, 2000; Kozan, 1997; Leung, 1988). Greater relational concern has been found to result in less dominating, more cooperative, and more avoidant conflict management behaviors (Lewicki & Litterer, 1985; Pruitt, 1981; Pruitt & Carnevale, 1993; Pruitt & Rubin, 1987; Putnam & Poole, 1987; Wang, 2006). Studies have consistently supported the effect of relational concern on conflict behaviors in interpersonal (Afifi & Guerrero, 2000; Ben-Yoav & Pruitt, 1984; Bippus & Rollin, 2003; Tjosvold & Chia, 1989; Tjosvold & Sun, 2002) as well as cross-cultural contexts (Cai, 1994, 1998; Cai & Fink, 2002; Kim & Leung, 2000; Kim et al., 1998; Kozan, 1997; Leung, 1988; Oetzel & Ting-Toomey, 2003).

The existing theories of conflict management, however, have several limitations. First, although concern for relationship has been used to explain differences in conflict behaviors at the individual and cultural level (Leung, 1988), the aspect of the relationship that causes an individual to focus more on relationship than conflict issues has been given little attention. Scholars have found that a relational concern could be a ultimate goal an individual pursues in conflict, but could also be an intermediate goal of being cooperative in order to achieve instrumental goals (Montgomery, 1990; Wilson & Putnam, 1990). In a conflict situation, both intermediate and ultimate relational goals may exist but they may

involve different processes. However, such a distinction is usually not examined. An exception is the study by Wang, Cai and Fink (2007), which developed a typology of interaction goals based on cooperative, competitive, and socioemotional dimensions. This typology differentiated goals that were cooperative but also instrumental from those that were purely relational. However, because Wang et al.'s paper focused on the effects of goals on the use of avoidance conflict strategies, the variables that predict these goal differences were not examined.

Second, existing theoretical frameworks have not accounted for both individual and interactive aspects of a conflict situation. Most of the theoretical models assume that an individual's conflict behaviors are driven by internal motivational (Blake & Mouton, 1964; Kilmann & Thomas, 1977; Pruitt & Rubin, 1986; Rhoades & Carnevale, 1999). For example, many researchers have viewed conflict behaviors as goal-directed (Ohbuchi et al., 1999; Wilson, 1990, 1995; Wilson & Putnam, 1990) or motivated by face concerns (Oetzel & Ting-Toomey, 2003; Ting-Toomey, Oetzel, & Yee-Jung, 2001).

Conflict is an interactive process in which conflict opponents are influenced by each other's behaviors as well as their own motivations (Pruitt, 1981; Rhoades & Carnevale, 1999; Roloff, 1987; Rubin & Brown, 1975). People often change their preferred conflict handling style in response to their counterparts' conflict behaviors (Bodtker & Jameson, 2001; Conrad, 1991; Kim & Leung, 2000; Rhoades & Carnevale, 1999; Kim et al., 1998; Putnam & Poole, 1987; Spector, 2007). In other words, an individual's motivations in a given situation is only one set of predictors of conflict strategies. Donohue (1990) maintained that the goals perspective in researching conflict limited the types of phenomena that researchers could choose to study and neglected the

full range of negotiation contexts, because conflict situations may generate impulsive and reactive responses as well as planned behaviors. Thus, an individual may use a dominating conflict style when facing a threatening opponent even though he or she has a high concern for maintaining a good relationship (Conrad, 1991). Rhoades and Carnevale (1999) compared the explanatory power of motivations and the behaviors of one's conflict opponents on individuals' conflict management behaviors and found that the opponents' behaviors were a better predictor of conflict behaviors in most of the scenarios that they examined. They concluded that models that include both motivation and behavioral contexts best predict conflict behaviors. Rhoades and Carnevale, however, did not directly examine a model that uses both motivation and behavioral contexts as predictors for conflict behaviors. None of the existing models in conflict behaviors present such a complete framework either.

Third, much of the current conflict research focuses on conflict styles as opposed to more communicative aspects of conflict behaviors. Communication during conflicts may be affected by a variety of situational factors that produce particular behavioral requirements for individuals in the immediate situation (Putnam & Poole, 1987; Putnam & Wilson, 1982). Some frequently studied background and situational factors that affect conflict behaviors include conflict intensity (Donohue, 1990; Leung, 1988; Roloff & Ifert, 2000; Rubin, 1983), conflict types (e.g., task vs. relational) (Jehn, 1994, 1997; De Dreu & Weingart, 2003; Pinkley, 1990; Pinkley & Northcraft, 1994), bargaining roles (e.g., buyer vs. seller) (Cai et al., 2000; Drake, 2001; Kamins et al., 1998; Putnam & Poole, 1987), and conflict opponents' behaviors (Bodtker & Jameson, 2001; Conrad, 1991; Kim et al., 1998; Rhoades & Carnevale, 1999). These factors have been found to cause individuals

to change their typical conflict styles and make strategic choices in the immediate situation (Sawyer & Geutzkow, 1965). Although the predominantly used theoretical framework, the dual-concern model (Pruitt & Rubin, 1986), focuses on concerns people have in conflict situations, many studies based on this model treat conflict styles as dispositional and unaltered across conflict situations and within each conflict episode (Conrad, 1991; Rhoades & Carnevale, 1999).

As Putnam and Wilson (1982) have noted, communication is more about strategic conflict behaviors than dispositional conflict styles. Many empirical studies have participants recall a past conflict scenario or imagine a conflict situation and then provide their answers to questions assessing conflict styles. Without knowing the role of situational factors, it is not possible to determine whether participants' reported conflict behaviors reflect consistent styles across different situations or strategic choices that are subject to change (Cai & Fink, 2002; Cai, Fink, & Xie, 2005). Therefore, models of conflict management are needed that examine the effects of the immediate situation on communication behaviors.

Finally, the explanatory power of existing theoretical models that explain cultural differences in conflict behaviors is limited. Many studies have examined cultural differences in conflict behaviors (see Cai & Drake, 1998, for a review), but only in recent years have researchers started to develop theoretical models to explain the underlying mechanisms of the cultural differences that have been found (Cai & Drake, 1998; Cai & Fink, 2002; Ting-Toomey, 1994; Oetzel & Ting-Toomey, 2003). Two widely used dimensions for predicting both cultural- and individual-level differences in conflict behaviors have been individualism-collectivism (I-C) (Hofstede, 1980; Triandis, 1995)

and self-construals (Markus & Kitayama, 2001). I-C and self-construals have been used to predict face concerns and conflict styles (Kim & Leung, 2000; Oetzel et al., 2001; Oetzel, Ting-Toomey, Yokochi, Masumoto, & Takai, 2000; Ting-Toomey & Cocroft, 1994; Ting-Toomey, Oetzel, & Yee-jung, 2001). However, the relation between I-C and behaviors has not been found to be consistent (see Fiske, 2002 for a review). Fiske (2002) argued that the term collectivism did not distinguish various kinds of social groups, and individualism did not distinguish various kinds of autonomy, which may be an explanation for the instability of this dimension in predicting behaviors. For example, the emphasis of collectivism in different social groups may not be consistent with one another (e.g., the social group that values deference to the elder may not emphasize even distribution). This may result in a culture seeming to be highly collectivistic in one domain but not collectivistic in others. Self-construals is a more specific cultural variable with a focus on individuals' psychological attributes. However, as a construct of self-concept, self-construals focus on the individual's perception of the self rather than addressing directly how different cultures give rise to different requirements for an individual in a relationship. A variable that can reflect cultural variance in the specific requirement a relationship has on an individual is needed to predict cultural differences in conflict behaviors.

To address these various limitations of conflict behavior research, a theoretical framework is needed that (1) captures the effects of different aspects of the relationship between the conflict parties on conflict behaviors, (2) takes into consideration both the individual and interactive process of conflict, (3) includes both motivational and

situational variables, and (4) provides more precise prediction of conflict behaviors based on both individual and cultural-level differences.

In this dissertation, role theory is used to establish the theoretical framework that fulfills the above requirements. Role theorists have argued that individuals see themselves and others as enacting roles and individuals' behaviors are guided by the roles they enact (Goffman, 1961; Gross, Mason, & McEachern, 1958; Kahn, Wolfe, Quinn, & Snoek, 1964; Merton, 1957). Therefore, individuals' definition of their relationships with their conflict opponents can be represented by the role relationships they perceive in a given conflict situation. Given that a person may enact multiple roles (Goffman, 1961; Kahn et al., 1964), the relationship between the two parties in a conflict could be dissected into different relationships between various roles; for example, two people could be both friends and negotiation opponents. Because individuals' role perceptions are determined by their social positions as well as the interactional situation (Biddle, 1986), examining role enactment by the conflict parties may be useful to link the effects of motivational and situational factors on conflict behaviors.

Although the effect of roles on conflict behaviors has been examined in conflict research, no study has systematically examined the effect of the multiple roles of interacting parties on their conflict behaviors. Various studies have demonstrated that individuals' conflict behaviors change depending on specific roles, such as bargaining roles (e.g., buyer-seller: Bazerman, Magliozzi, & Neale, 1985; Cai et al., 2000, Kamins et al., 1998; Neale, Huber, & Northcraft, 1987), status roles (superior vs. subordinates: Brew & Cairns, 2004; Brewer, Mitchell, & Weber, 2002; Putnam & Poole, 1987), management roles (e.g., management vs. labor: Putnam & Jones, 1982), team roles (e.g.,

coordinator, initiator, information provider: Aritzeta, Ayestaran, & Swailes, 2005), and gender roles (male vs. female: Brewer et al., 2002). However, a single role in a conflict situation does not account for the dynamics of the conflict situation, which may be influenced by various roles the parties must enact during a single conflict episode.

Moreover, studying the multiple roles enacted by both conflict parties helps to account for both personal and interactive processes that contribute to conflict strategies within a single situation. In a conflict situation, individuals' strategies may involve enacting their own roles and responding to the other's roles, which reflects both purposeful and reactive aspects of conflict behaviors.

Individuals, who are influenced by their cultures, differ in the importance they grant to various roles and expectations associated with these roles (Goffman, 1961). Literature in both Western and Eastern cultures have shown the influence of roles on individual behaviors (Biddle, 1986; Goode, 1960; King, 1985; Munro, 1985), suggesting that role theory can provide an etic approach to examine the mechanism of conflict management across cultures and provide a venue to investigate cultural differences in conflict behaviors.

Given the potential of the roles perspective to address limitations in the current conflict literature, this dissertation proposes a roles model that (1) describes both individual and interactive aspects of conflict situations, (2) explains conflict strategies as a result of the combined effects of one's dispositional orientations and the immediate situation, and (3) predicts both individual-level and cultural-level differences in conflict management strategies. By introducing this model, this dissertation addresses the following question: To what extent are multiple roles enacted in the immediate conflict

situation and how does the enactment of one type of role affect that of another type, which in turn affects conflict behaviors?

The following chapter reviews the literature on role theory, on the goals perspective in communication, and on conflict management strategies. A model linking role enactment and conflict strategies through goals and emotions is then presented. The rationale for each hypothesis in the model is provided. In Chapter Three, the overall study design is presented, followed by a report on the three pilot studies. The main study is then described. The results are reported in Chapter Four. The fifth and final chapter provides an interpretation of the results from the main study, discusses the contributions and limitations of this dissertation, and recommends directions for future research.

CHAPTER II

Linking Role Enactment to Conflict Strategies

Role Theory

Role theory posits that an individual's behaviors are influenced by the role relationships in which he or she is involved (Biddle, 1986; Goffman, 1961; Goode, 1960; Gross et al., 1958; Kahn et al., 1964; Merton, 1957; Turner, 2002). Individuals organize and make sense of their own and others' behaviors based on their perception of the social roles of both parties (Popitz, 1972; Turner, 2002). Gross et al. (1958) argued that despite various trends in defining roles, such as role as normative expectations, role as behavioral orientation to a particular social context, and role as actual behaviors for social position occupants, all conception of roles share important common aspects, namely that individuals occupy social positions and behave according to normative expectations. Based on this conceptualization, role is defined as a set of behavioral expectations for individuals occupying social positions. Role is not the set of actual behaviors and should also be distinguished from social positions or status: An individual occupies a social position or status. Whereas a role is the behavioral expectation for acting out of that position or status, one does not occupy a role (Gordon, 1972; Gross et al., 1958).

Two general categories of roles can be distinguished that are especially relevant to social interaction and relationships. The first category is of roles that are based on formal social position. This type of role deals with comparatively long-term and stable relationships, such as "status role" in Gordon (1972, 1976), Knibbe et al. (1987) and Turner (2002); and "position role" in Knibbe et al. (1987) and Turner (2002). Examples of this type of role are family member, student, colleague, and friend. The second

category is of roles that emerge in immediate situations within an interaction context. These roles are short-term and subject to termination once the situation changes, such as "functional group roles" in Turner (2002), "situational role" in Knibbe et al. (1987), and "situated roles" in Goffman (1961). Examples of this type of role include a surgeon during an operation (Goffman, 1961), a negotiator in a business negotiation, and a discussant in a work meeting. These two types of roles are considered particularly central and salient to social interaction as compared to other types of roles, such as the value roles (e.g., being a patriot) (Gordon, 1972, 1976; Turner, 2002) and ascriptive roles (e.g., age and gender roles) (Parsons & Platt, 1973). Therefore, these two types of roles, long-term versus situational roles, will be used in the current model. To avoid confusion caused by different expressions of role types, Goffman's terminology of *situated role* will be used to represent the category of situational roles, and *general role* will be used to represent the category of long-term roles throughout this dissertation.

Although not all the roles that a person has are performed in a given situation, it is common to enact multiple roles simultaneously (Biddle, 1986; Goffman, 1961; Gross et al., 1958; Hall, 1972; Kahn et al., 1964; Merton, 1957; Turner, 2002). In a social situation, roles associated with other more general social positions may be enacted as well as those that arise from the immediate situation (Bradbury et al., 1972; Kahn et al., 1964; Goffman, 1961). Thus, an individual's behaviors in a given situation are a product of enacting multiple social roles. Both general and situated roles and the way they are enacted may be important predictors of behaviors in conflict situations.

In the following sections, the notion of general versus situated role will be explicated, and *role-obligation* will be introduced to explain the enactment of general and situated roles in a given situation.

General Versus Situated Roles

Goffman (1961) called face-to-face interaction episodes *situated activity systems*, "a somewhat closed, self-compensating, self-terminating circuit of interdependent actions" (p. 96). He defined a situated role as "a bundle of activities visibly performed before a set of others and visibly meshed into the activity these others perform" (p. 96). People take on the situated role to fulfill the requirements of the immediate situation, such as a task to be achieved. Once the set of activities are finished, the individual can step out of the role and no longer carry out the role-mandated activities. In contrast, a person cannot step in and out of general roles, such as being a mom, a daughter, a colleague, a husband, as easily as for the situated roles, unless the relationship (e.g., mother-children, parent-daughter, husband-wife) is intentionally or accidentally terminated (e.g., by divorce or death; Goffman, 1961).

Based on Goffman's conceptualization, a conflict interaction is a situated activity system, and the role the individual takes in the immediate situation would be a situated role for the conflict episode. For example, a conflict interaction could involve two people whose situated roles could be as discussion partners in a group meeting. In addition to their situated role, general roles, such as being friends or colleagues at work, or even siblings, also may be salient within the interaction. Such situations are noted often in research that examines conflict in close relationships (Afifi & Guerrero, 2000; Gottman, 1994; Gottman, Markman & Notarius, 1977). To what extent are multiple roles enacted

in the immediate conflict situation and how does the enactment of the general roles affect the enactment of the situated roles and the conflict behaviors?

Multiple role enactment has been examined in both theoretical (Biddle, 1986; Bradbury et al., 1972; Goffman, 1961; Kahn et al., 1964; McCall & Simmons, 1966; Montgomery, 1998; Stryker & Macke, 1978) and empirical studies (Getzels & Guba, 1954; Goode, 1960; Stouffer, 1949; Stouffer & Toby, 1951; van de Vliert, 1981; Wispé, 1955; Zurcher, Sonenschein, & Mezner, 1966). This research has shown that individuals in a given situation or relationship often perceive those roles that do not directly affect the immediate situation. For example, a business person may realize that the negotiation counterpart is also a friend (Montgomery, 1998). When asked to evaluate other students cheating behaviors in an exam, a student may issue more lenient punishments for friends than for other students (Stouffer, 1949). Goffman (1961) argued against the common theme of role-segregation in social psychology that suggested that individuals can only be one thing on one occasion. He maintained that whereas the situated role would be given principal attention, individuals' other roles also would be given recognition in the immediate situation (p. 152). He further argued that an individual sometimes disregards a situated role by placing great level of emphasis on his or her general roles.

Goffman's argument indicated that individuals differ in the extent that they actively perform role-related behaviors. He introduced the term *role embracement* to describe the extent to which an individual actively accepts and performs a role and is fully embedded in the role relationship: An individual embraces the role when he or she (1) is attached to the role, (2) demonstrates the capability of conducting the role activities, and (3) exerts attention or effort into the activities. Under high levels of embracement, the

general roles have less weight and may become latent, and thus multiple types of roles may seem not to exist (Goffman, 1961).

Compared to situated roles, general roles are associated with more stable social positions. The normative expectations associated with general roles are often translated into duties and obligations for the individuals enacting the roles (Goffman, 1961; Goode, 1960; Gross et al., 1958). Obligation is defined as actions that an individual "or others can legitimately demand he perform" (Goffman, 1961, p. 92). Gross et al. (1958) identified expectations as the central notion for roles and then explained that expectation could be represented by two kinds of ideas, obligation and rights. Whereas rights refer to expectations individuals feel legitimate to have for the other party in the role relationship, obligations refer to the expectations that apply to themselves as occupants of the focal position (Gross et al., 1958). Goffman (1961) emphasized Linton's (1936) notion that the unit of analysis for role theory should be individuals enacting their obligations, suggesting obligation as the key component of role expectation for the self. Continuing Linton's view that obligations are imposed on individuals by the normative world, Goffman viewed obligation as guiding individuals' actions toward others.

Individuals may vary in the extent to which their behaviors match the normative expectations of their social positions and deviate from the normative aspect of general roles (Goode, 1960; Gross et al., 1958). In summarizing individual differences in accepting role obligations, Goode (1960) noticed that individuals did not necessarily accept the values prescribed by the society; thus they may give priority to other roles in which they were more emotionally committed. Stouffer and Toby (1951) argued that perceived obligations vary with the level of intimacy of the relationship, with greater

intimacy and affection leading to greater obligation. This link between obligation and relational closeness is evident in current research on interpersonal relationships (Bar-Tal, Bar-Zohar, Greenberg, & Hermon, 1977; Clark & Mills, 1993; DePaulo, 1978; Mills & Clark, 1982; Roloff, Janiszewski, McGrath, Burns, & Manrai, 1988; Shapiro, 1980; Williamson, Clark, Pegalis, & Behan, 1996). This body of research has shown that the sense of obligation for fulfilling the needs and concerns for others increases as relational intimacy increases. For example, Roloff et al. (1988) found that greater relational intimacy led to greater perceived obligation for the other party to grant help, which resulted in decreased request elaboration and a decreased number of forgiving statements that were used when requests were refused.

These studies suggest that although obligations associated with general roles may reflect a variety of behavioral expectations, obligation to fulfill other's needs and concerns may be particularly relevant for the relational aspect of general role expectations (Kozan, 1997; Leung, 1988). Therefore, role-based obligation to fulfill other's needs and concerns may be a useful variable for indicating individuals' embracement of their general role. Neale et al. (1987) argued that the obligation associated with roles imposed "limitations on task-characteristic responsiveness" (p. 230): When individuals actively embrace their situated role, the obligation they perceive based on their general roles serves as a kind of social constraint that pulls the individual back from being fully embedded in the immediate situation. Thus, role obligations may determine the extent to which an individual embraces his or her situated role.

Obligation as a Cultural Variable

In East Asian cultures, especially those influenced by Chinese culture, role obligation has an important influence on behaviors (Benedict, 1946; Bian, 1997; Bian & Ang, 1997; Cai, Fink, & Xie, 2007; Hwang, 1987; Kim et al., 1999; Kipnis, 2002; Munro, 1985). Chinese culture is deeply rooted in Confucian philosophy, which prescribed five types of hierarchical social roles: "affection between parent and child; righteousness between ruler and subject; distinction between husband and wife; order between old and young; and sincerity between friends" (King, 1985, p. 58). Each social role is associated with a set of duties and obligations that constrain individual behaviors to maintain appropriate social order (Munro, 1985). Further, such relational obligation is reciprocal. Individuals are expected to act based on their role obligations with the mutual expectation that other members in the role relationship also will fulfill their obligations, even though such expectation may arise from a concern for instrumental gains as opposed to a concern for relational harmony (Leung, Kock, & Lu, 2002). Hwang (1987) concluded that reciprocity between relational partners in China reflected "socially situated obligations" as opposed to a "universalistic exchange between autonomous actors" (p. 968), suggesting that reciprocity is guided by obligations associated with prescribed roles rather than by choices.

Relational obligation also is emphasized in Japanese and Korean cultures (Benedict, 1946; Kim et al., 1999). Japanese culture places a moral sense on recognizing one's social position and fulfilling mutual indebtedness among relational partners (Benedict, 1946). A person is obligated to others in various role relationships such as family relationship. A similar sense of role obligation has been shown to predict behavior

in Korean (Kim et al., 1999) and Indian cultures (Miller, 1994; Miller & Bersoff, 1994, 1998; Miller, Bersoff & Harwood, 1990; Miller & Luthar, 1989).

Compared to Eastern Asian cultures, in which role obligation is the primary determinant for behaviors (Benedict, 1946, Hwang, 1987; King, 1985; Munro, 1985), obligation seems to be less influential when it contradicts personal preferences in the United States (Biddle, 1986; Goode, 1960). Goode (1960) pointed out that role obligation sometimes conflicts with individuals' values or ideas, and thus the weight of role obligation may be lessened when such conflict exists. Miller and Bersoff (1998) conducted a study examining the effect of liking on perceived moral responsibility for roles based on four types of relationships (i.e., parents-children, sibling-sibling, friend-friend, and colleague-colleague) in two cultures (India & the U.S.). Their results showed that American participants perceived less obligation to help others when liking was low than when liking was high across all relationship types except parent-children. This study supports the notion that role obligation for fulfilling others' needs and concerns has a limited effect on individual behaviors for American cultural members when it encounters contradictory personal preferences.

Cai et al. (2007) investigated cultural differences in role-obligation by examining the effects of culture, relationship, and intimacy on obligations involving different resource types (time versus money) and different emotional values (emotional versus instrumental). Their results showed that obligation exists in both Chinese and the U. S. culture and across relationships. However, these cultures differed in perceived obligations for different resources. Specifically, Chinese participants, as compared to their American counterparts, perceived greater obligations to help others in a money situation, whereas

American participants reported more willingness to spend time talking with others (Cai et al., 2007).

The above review suggests that obligation to fulfill others' needs and concerns is an important element in role relationships for both Asian and American cultures. Social norms in both cultures prescribe fulfillment of such obligations. However, cultures may differ in the level of obligation individuals perceive when enacting a given role and in the social domains in which obligation is given more weight than personal preferences. Therefore, the roles approach should be a model that can be applied to both East Asian and the U.S. cultures. In addition, the obligation to fulfill others' needs as prescribed by a general role has the potential to reflect both individual and cross-cultural differences in the way that general roles are enacted in a conflict situation and to predict the behavioral consequences of such enactment.

General Versus Situated Role Consistency

When an individual enacts both a general and a situated role simultaneously, there are three possible relationships between the two roles: consistent, inconsistent, or irrelevant to each other in terms of their corresponding prescriptive and proscriptive behavioral expectations. The consistent and inconsistent role relationship have been widely studied in the role consensus and role conflict literature (see, for example, Biddle, 1986; Bradbury et al., 1972; Getzels & Guba, 1954; Gibbs, 1965; Gross et al., 1958; Kahn et al., 1964; McCall & Simmons, 1966; McGrath & Altman, 1966; Merton, 1957; Stouffer, 1949; Stouffer & Toby, 1951; Turner, 1947, 2002; van de Vliert, 1981; White, 1979; Wispé, 1955; Zurcher, et al., 1966). Two roles are consistent when the prescriptive and proscriptive behavioral expectations associated with the two roles are highly similar.

For example, one's role of being a friend is consistent with being an ally of another person in a sporting match, as both roles may prescribe positive behaviors such as helping, sharing, and supporting, and proscribe negative behaviors such as aggression, cheating, and betrayal. Roles are inconsistent when the proscriptive behavioral expectation of one role is prescribed by the other role. In other words, behaviors expected for one role are prohibited for the other role. For example, when two brothers are vying to become the president of a family business, the role of being a brother is inconsistent with the role of being a competitor, as the sibling role may prescribe fulfilling other's needs and concerns, but winning the position of president may mean giving less concern to the other's needs and goals. When two roles are irrelevant, their prescriptive or proscriptive behavioral expectations are unrelated. In the current dissertation, most of the roles' prescriptive and proscriptive behavioral expectations are assumed to be related either consistently or inconsistently to various degrees.

A physics metaphor of forces on an object could be used to understand the forces of different expectations from general versus situated roles on the individual. An individual's role expectations are the different forces; the different signs of the roles are the directions of the forces imposed on the individual. If the expectations of the situated role are forces pulling an individual forward, expectations from the general role are forces that may vary in directions based on the degree of consistency between the general and the situated role.

Just as forces of different directions and strength on the object result in different movements of the object, general and situated roles with different inter-relationships and intensity may lead to different behaviors in a conflict situation. Whereas the inter-

relationship between general and situated roles may influence the directions of forces, the level of obligation to the general role and embracement of the situated role reflects the strength of forces, which eventually determines the movement of the individual (confront vs. not confront the other) when combining the strength with directions of the forces. For example, suppose the situated role expects an individual to confront the other whereas the obligation from the general role demands the individual not to confront. When the expectation from the situated role is stronger in forces than that of the general role, the individual would confront the other.

Note that in circumstances where the general role and the situated role are irrelevant to each other, the general role still has an influence on the individual's behavior. The combined force imposed by the general and the situated role apply pressure on the individual and distract the individual from focusing on confronting the other party in the conflict.

Linking Self Roles to Conflict Behaviors Through Goals

The evidence for the connection between role and behaviors has been well documented (Arthur, 1997; Biddle et al., 1985; Chafetz, Abramson, & Grillot, 1996; Hajema & Knibbe, 1998; Hall, 1972; Schuler, 1979; Stouffer, 1949). Studies in conflict and negotiation have shown the effect of roles on negotiation behavior and conflict management styles (Aritzeta et al., 2005; Bazerman et al., 1985; Brew & Cairns, 2004; Brewer et al., 2002; Cai et al., 2000; Kamins et al., 1998; Neale et al., 1987; Putnam & Jones, 1982; Putnam & Poole, 1987). For example, Kamins et al. (1998) conducted a negotiation simulation with more than 200 businesspeople from Japan and the U.S. Their findings showed that participants assigned with the buyer role received greater deference

from sellers in both cultures, but this trend was greater for Japanese participants than Americans. Cai and her colleagues (Cai, 1998; Cai et al., 2000; Drake, 2001) found that roles moderated the effects of culture on intercultural negotiation behaviors and outcomes. Using a negotiation simulation, Cai et al. (2000) found that seller collectivism predicted more integrative outcomes and less distributive behaviors than buyer collectivism did. Researchers interested in conflict in organizational contexts found that individuals taking the role of superior tended to use dominating and integrating conflict styles whereas those with the subordinate role usually adopted obliging, avoiding, or compromising styles (Brew & Cairns, 2004; Brewer, Mitchell & Weber, 2002; Putnam & Poole, 1987).

Although there is much evidence for role's effects on behaviors, the underlying mechanism for the effects has not been examined. Moreover, most of the studies reviewed above have focused on either general roles or situated roles, or they have mixed the two types of roles without differentiating the effect of each type on behaviors. Because conflict management styles have been shown to be motivated by goals (Blake & Mouton, 1964; Lewicki & Litterer, 1985; Pruitt & Rubin, 1986; Sorenson, Morse, & Savage, 1999), the link between individuals' role enactment and conflict behaviors may be mediated by goals that motivate the use of particular conflict behaviors. Wilson and Putnam (1990) summarized their previous findings that bargaining roles helped form individuals' interaction goals such that people in management roles pursued more defensive goals and those in labor roles had more offensive goals. These goals in turn resulted in different negotiation tactics used by people in these two roles. Wilson and Putnam's study provides evidence that goals may serve to link individuals' role enactment to conflict behaviors.

Goals are defined as people's cognitions about what they want to achieve (Wilson & Putnam, 1990, p. 376). Wilson and Putnam (1990) referred to interaction goals as those goals that require communication to achieve. They argued that most of the goals pursued by individuals in conflict and negotiation situations were interactive goals as individuals could not just "impose their desires on the other side" (p. 376).

Wilson (1990, 1995) developed a cognitive rules model to examine the formation of interaction goals. He argued that cognitive rules linking situational characteristics to desired states are stored in an associative network of memory. The nodes of the associative network where the goal-relevant knowledge is stored comprise concepts such as roles, traits, relational qualities, and desired outcomes (Wilson, 1990). Goals are formed when the situational features match the accessible and relevant cognitive rules. Wilson's model suggests that once the perceived situational features cause certain parts of cognitive structure to become salient, which activates the cognitive rule for developing a certain goal, the corresponding goal is formed, which in turn directs behaviors.

Collier and Callero (2005) argued that social roles affect behaviors through the establishment of relevant cognitive structures, indicating that roles are resources for cognition, through which social actions could be accomplished (Collier & Callero, 2005). They conducted a field experiment examining the assumption that role behaviors were predicted by the corresponding cognitive structure and found that the induced role of "recycler" during the four-week experimental period resulted in a newly emerged role-related schema related to recycling. The result supported the idea that enactment of a given role triggers a corresponding cognitive structure, which in turn activates related cognitions and behaviors. If enacted roles make salient a certain cognitive structure that

fits the cognitive rule for developing a goal and that goals direct behaviors, then it is reasonable to propose that (1) different roles give rise to their corresponding goals, which in turn lead to different sets of behaviors, and (2) the enactment of multiple roles may result in the emergence of multiple types of goals.

Dillard and his associates (Dillard, 1990; Dillard & Schradar, 1998; Dillard et al., 1989, Schradar & Dillard, 1998) developed the Goals-Planning-Action (GPA) model for studying interpersonal influence situations. The GPA model posits two types of goals in influence situations: primary goals and secondary goals (Dillard, 1990). The primary goal is what brings people into the interaction and helps define the situation; the secondary goals emerge during the interaction and constrain individuals' behavioral alternatives during the interaction (Dillard, 1990; Dillard et al., 1998; Schrader & Dillard, 1998). For example, in an influence situation, the primary goal would be the desire to induce compliance in the other person (Dillard et al., 1998), and secondary goals could be identity goals, interaction goals, or relational resource goals (Schrader & Dillard, 1998). Whereas the primary goals are specifically related to the immediate interaction, the secondary goals are more general and may be recurrent across various situations (Dillard et al., 1989).

The GPA model can be applied to conflict situations. According to Dillard et al. (1998), the primary goal in a conflict situation would be to address the issue, or issues, in conflict, such as resources, profits, or needs, and the secondary goals would be objectives other than the primary goals that shape individual conflict behaviors. The situated role may generate the primary goal, because the primary goal is formed based on a fit between the cognitive rule and the immediate situation as defined by the situated roles (Wilson,

1990, 1995). In comparison, general roles may give rise to secondary goals, as the general roles may trigger schema resulting in those goals that reflect more general motivations not exclusive to the immediate situation (Schrader & Dillard, 1989). However, the terminology of primary versus secondary goal implies that primary goal is given greater priority over secondary goals, which is not necessarily the case in situations in which individuals disregard the primary goal but focus on the secondary goals. The types of goals that are primary is the decision of the actor. In this dissertation, the terms situated goal and general goal are used to replace primary goal and secondary goal, respectively. This new terminology maintains the notion of the GPA model without imposing the priority of one type of goal over the other.

Different types of goals have been identified in negotiation literature, such as instrumental goals, relational goals, and identity goals (Clark & Delia, 1979; Wilson & Putnam, 1990). Any one of these types of goals could be the situated goal depending on the specific conflict issue. For example, in a negotiation over products' retail prices, the situated goal is instrumental, whereas in a conflict regarding how to maintain a friendship, the situated goal is relational. Similarly, this dissertation does not assume any particular type of goal is general. However, because the obligation to fulfill others' needs is associated with the reciprocity and relational aspect of general roles (Leung, 1988), a relational goal is expected to be the most salient general goal triggered by such obligation and therefore was used as the exemplary variable for general goals in model testing.

If obligation to the other person, as part of one's general role, serves as social constraint that prevents individuals from fully embracing their situated role, then this relationship between general and situated role may affect the relative importance of the

general and situated goals. In addition, because general goals constrain the behavioral alternatives available to achieve situated goals, individuals' behaviors are a result of the relative importance of the two types of goals. Therefore, individuals' embracement of their situated role, the level of obligation associated with their general roles, and the interrelationship between the two types of roles should affect conflict behaviors in the immediate situation through the relative importance of the situated and general goals.

Linking Perceptions of Other's Role Enactment to Conflict Behavior Through Emotion

Role relationships are interdependent (Marwell & Hage, 1970). When an individual perceives him or herself in a certain role, the other party is usually perceived as the counterpart of the same role relationship (Marwell & Hage, 1970). The expectations the focal person has for the other are based on his or her definition of the role relationship, which also is reflected in the perceived obligation of his or her own roles (Kim & Leung, 1988). Individuals not only perform their own role obligations, but they respond to the role-directed behaviors of their interaction partners based on an evaluation of whether their role expectations are met by the other person (Popitz, 1972).

In some cases, however, individuals' definition of a role relationship involves the expectation that the other party may defy a particular role prescription. For example, although involved in a negotiation, an individual may perceive a friend-friend role relationship with the other person. For various reasons the focal person may perceive that the other party does not see him or her as a friend, resulting in an asymmetry in role expectations. The expectation the focal person has for the other's role may now be different from the obligations the focal person has for his or her self-role (e.g., the focal person may not be surprised if the other behaves in an overly business-like manner),

however, the focal individual's behaviors are still guided by self-role obligations. Meanwhile the other's role behaviors will be evaluated against the revised role expectations.

When the other person fails to meet the focal individual's role expectations for him or her, the focal individual may adjust their behaviors, such as conflict strategies in a conflict situation, in response to the other party's behaviors (Barry & Oliver, 1996; Pruitt, 1981; Rhoades & Carnevale, 1999; Rubin & Brown; 1975). Roloff (1987) stated that the other communicator's behaviors often influence an individual's own strategy use in interpersonal interactions. Researchers have consistently found that individuals react and reciprocate the other's uncooperative behaviors regardless of their initial conflict styles (Gottman et al., 1977; Kim & Leung, 2000; Pruitt, 1981; Putnam & Poole, 1987; Rhoades & Carnevale, 1999; Rubin & Brown, 1975; Spector, 1977). For example, Rhoades and Carnevale (1999) found that when they matched their participants with others who had different motivations for conflict styles than the participants held, the participants responded to uncooperative behaviors with highly contentious responses even when they reported their general conflict styles to be cooperative. Spector (2007) examined the psychological climates of negotiators and found that hostile behaviors by negotiators were often the result of mirroring their opponent's hostility. When examining conflicts in marriage, Gottman et al. (1977) found that distressed couples often reciprocate negative behaviors.

Other studies have shown that expectancy violation leads to retaliation (Conrad, 1991; Kim et al., 1998; Swingle, 1966; Swingle & Gillis, 1968). For example, Swingle and Gillis (1968) examined the effect of an expected cooperative versus competitive

other on individuals' negotiation behaviors in prisoner's dilemma games. They manipulated relationship (liked other, stranger, or disliked other) and the other's strategies (cooperative vs. competitive). The results showed that participants who encountered a liked other that changed behavior from cooperative to competitive responded with even more competitive strategies than the liked other, but such a pattern was not found for other relationship types, demonstrating an increase of revenge after a violation of positive expectations. Swingle (1966) found a similar behavioral trend following the betrayal by a liked other. In an organizational context, Conrad (1991) found that superiors switched to more dominant strategies when facing noncompliance regardless of their general conflict styles. Similar findings have been reported regarding conflict management in influence situations. For example, Kim et al. (1998) found that their participants used more direct requests in influence situations when facing noncompliance regardless of their cultural orientations and typical communication styles.

This type of influence of the other party's role behavior on the focal individual's behavior represents the impulsive and reactive aspects of conflict strategies that may not involve planning (Donohue, 1990). Therefore, whereas goals are expected to mediate the effect of self-role enactment on conflict behaviors, the other party's violation of one's expectations is expected to influence conflict behaviors through a more reactive process. What exactly could happen during this process? Is there any cognitive or emotional aspect involved?

Anger. Anger is a negative emotion that results from a slight, offense or goal interruption that motivates aggression (Kemp & Strongman, 1995; Lazarus, 1991; Nabi, 2002). Negative violation of expectation (i.e., the expectation violation that is viewed as

undesirable by the focal individual) (Denham & Bultemeier, 1993; Fisher & Johnson,1990; Leventhal, 1974), failure to fulfill a social obligation (Fisher & Johnson, 1990), violation of social norms (Camras & Allison,1989; Fisher & Johnson, 1990; Fisher, Reid, & Melendez, 1989; Scherer, Wallbott, & Summerfield, 1986), and unfair or unjustified behavior (Averill, 1983; Camras & Allison,1989; Scherer et al., 1986; Shaver, Schwarts, Kerson, & O'Connor., 1987) have been identified as primary causes of anger. In addition, individuals feel angry when others fail to treat them as they should have been treated (Allcorn, 1994; Tavris, 1982). Therefore, the other party's violation of the focal person's role expectation for that person may result in anger within the focal person, because the role expectation is negatively violated, the obligation that the other is expected to fulfill is not fulfilled, and the focal person may perceive that he or she is not being treated appropriately by the other person.

Anger is an emotion that has a strong influence on behaviors (Burrowes & Halberstadt, 1987; Ekman, Friesen, & Tomkins, 1971; Guerrero, 1992; Lazarus, 1991). Lazarus (1991) argued that although anger is generated by a certain perceived fault, angry individuals tend to do something to address the harms caused by the faults. According to Lazarus, anger is different from other emotions as a behavior motivation, because unlike other emotions that are felt and relieved, individuals dwell on anger, which influences behaviors. In addition to aggressive and retaliatory behaviors (Canary, Spitzberg, & Semic, 1998; Guerrero, 1992; Lazarus, 1991; Zillmann, 1994), anger has been found to motivate behavior change in persuasion (Nabi, 2002; Turner, Wang, Yao, & Xie, 2004, 2005) and in negotiation (Allred, Mallozzi, Matsui, & Raia, 1997). For example, Cai et al. (2005) examined the independent effects of conflict and anger on individuals' conflict

behaviors and found that anger resulted in individuals talking with a third party regarding the conflict issue after the conflict situation. Turner et al. (2004, 2005) found that perceived anger toward a certain issue (e.g., parking or tuition increase) resulted in inclinations to act upon the issue.

Given the link from expectation violation to anger and from anger to conflict behaviors, a perceived negative violation of a role expectation by an other is expected to influence the conflict behaviors of the focal person through the mediating effect of anger.

Conflict Management Strategies

Style versus strategies. Conflict styles research originated from the work by Blake and Mouton (1964), which proposed that managerial styles can be explained by a two-dimensional grid that includes high and low concern for people and high and low concern for production. The two-dimensional model was developed further by Thomas (1975), in which assertiveness and cooperation were proposed as two dimensions that define people's traits for managing conflicts. Later, Pruitt and Rubin (1986) proposed the dual-concern model, which predicts conflict styles in negotiation based on the dimensions of concern for one's own outcomes and concern for an other's outcomes. Although different terminology has been used, five conflict styles have been identified by these models: (1) the dominating style, which involves a high concern for one's own outcomes and a low concern for the other person's outcomes, (2) the integrating style, which involves a high concern for one's own outcomes and a high concern for the other person's outcomes and prioritizing interests and information exchange, (3) the obliging style, which involves a low concern for one's own outcomes but a high concern for the other party's outcomes, (4) the compromising style, which involves a moderate concern for both one's own and

the other's outcomes and finding a middle ground between both parties' needs, and (5) the avoiding style, which involves a low concern for both parties' outcomes (Kilmann & Thomas, 1977; Pruitt & Carnevale, 1993; Pruitt & Rubin, 1986).

Although conflict styles have been useful for identifying individuals' general preferences for resolving conflicts, they have failed to capture the dynamics of the immediate situation, in which various situational factors such as roles perceptions may alter an individual's general communicative behaviors (Conrad, 1991; Pruitt & Carnevale, 1993; Putnam & Wilson, 1982; Rubin & Brown, 1975). For example, when facing noncompliance responses from their subordinates, superiors often switch to coercive strategies no matter the conflict styles that they initially adopted (Conrad, 1991). After all, individuals react to challenges in conflict situations (Pruitt, 1981; Rhoades & Carnevale, 1999; Rubin & Brown, 1975).

Researchers have differentiated between conflict strategies and conflict styles. Strategies reflect the behavior choices (Putnam & Wilson, 1982) and action sequences that lead to goal achievement (Lewicki & Litterer, 1985), whereas conflict styles are considered to be more stable and dispositional than strategies (Putnam & Wilson, 1982; Wang, Fink, & Cai, 2007). Putnam and Wilson argued that conflict strategies account for the influence of situational as well as characteristic factors of individuals' behaviors and thus reflect the communicative aspects of conflict situations better than conflict styles. Because the current dissertation focuses on the communicative aspects of conflict and emphasizes the effect of the situational context (e.g., role perception and the other party's role behaviors) on conflict behaviors, conflict strategies, as opposed to conflict styles, will be used to describe conflict behaviors.

Two dimensions for studying conflict strategies. Based on the two mediating processes discussed above (i.e., the role of goals in self-role enactment and the role of anger in other-role enactment), two dimensions are generated in the current dissertation to organize various conflict strategies: (1) confronting versus non-confrontating and (2) relational-protective versus relational-disruptive. The first dimension deals with confronting versus not confronting the other based on the idea that embracement of the situated role influences the perceived importance of the situated goals. The pursuit of the situated goal reflects the notion of being pro-active in handling the conflict, which is expected to be reflected in the confronting versus nonconfronting behaviors. The idea that obligation constrains the situated role and influences the importance of the relational goal gives rise to the second dimension. The pursuit of relational goals is expected to direct behaviors in the relational dimension. In addition, the mediating effect of anger on conflict strategies should influence both dimensions because of the behavioral intention associated with anger and the relational-disruptive aspect of this negative emotion.

Confronting versus nonconfronting strategies. Confronting behaviors involve the active pursuit of interaction with the other party over the conflict issue (Kilmann & Thomas, 1977; Lewicki & Litterer, 1985; Ohbuchi et al., 1999; Putnam & Wilson, 1982; Ruble & Thomas, 1976). The confronting strategies could involve either aggressive conflict behaviors (Fukushima & Ohbuchi, 1996; Ohbuchi et al., 1996) or problem-solving and integrating conflict behaviors (Newell & Stutman, 1988, 1991), or both of the kinds (Kilmann & Thomas, 1977; Putnam & Wilson, 1982; Ruble & Thomas, 1976). Therefore, the confronting versus nonconfronting dimension has a quite liberal conceptualization that simply deals with the intention for direct coping behaviors in

conflict. In other words, dominating or problem-solving strategies are considered to be confronting but avoiding strategies are considered non-confronting.

Relational-protective versus relational-disruptive strategies. Both confronting and nonconfronting conflict strategies can be either relational-protective or relational-disruptive. The dual-concern model (Pruitt & Rubin, 1986) posited that dominating conflict styles are based on high concern for one's own outcomes and low concern for the other's outcomes, whereas the problem-solving conflict styles involves high concerns for both one's own and the other's outcomes, suggesting the relational-protective nature of problem-solving confronting styles.

Unlike confronting conflict strategies, the relational dimension of avoiding (nonconfronting) strategies has not been given attention until recently. Avoiding strategies were usually considered as a single behavior category in the conflict literature. However, Cai and Fink (2002) mapped individuals' preferences of the five conflict styles in a multidimensional space and found that individuals differ greatly in their conceptualization of avoiding behaviors. Whereas in previous models avoiding styles were considered as ineffective in achieving instrumental goals (Blake & Mouton, 1964; Kilmann & Thomas, 1977; Pruitt & Rubin, 1986; Wang et al., 2007), they have been found to be conducive to maintaining relational harmony (Argyle & Furnham, 1983; Gottman, 1994; Kim & Leung, 2000; Kirkbride, 1991; Leung, 1988; Morris et al., 1998). Nicotera (1993) found that relational concern was an important dimension in addition to the concerns proposed by Pruitt and Rubin's (1986) dual-concern model. She found that avoiding people was disruptive to relations whereas avoiding the conflict issue reflected the desire to maintain a harmonious relationship. Recently, scholars (Han & Cai, 2006;

Wang et al., 2007) have indicated the importance of distinguishing between avoiding a person from avoiding the conflict issues, arguing that different avoidance behaviors result from different face concerns (Han & Cai, 2006) and interaction goals (Wang et al., 2007). Therefore, both avoiding the person and avoiding the conflict issue will be examined as two separate nonconfrontational conflict strategies that are relational-disruptive and relational-protective, respectively.

In summary, four types of conflict strategies were generated based on the two dimensions (i.e., the confrontation dimension and the relationship-protection dimension) (Table 1): (1) the dominating strategy is confronting and relationally disruptive, (2) the problem-solving strategy is confronting and relationally protective, (3) the avoiding the issue strategy is nonconfronting and relationally protective, and (4) the avoiding the person strategy is nonconfronting and relationally disruptive. These strategies are proposed to be influenced by individuals' self-role enactment and the perceptions of the other's role enactment through the mediating effects of goal importance and level of anger.

Model and Hypotheses

The propositions linking self-role enactment to conflict strategies through goals and linking other's role enactment to conflict strategies through emotion give rise to the theoretical model provided in Figure 1.

Table 1

A Typology of Conflict Strategies

		Relational Concern	
		Relational-Protective	Relational-Disruptive
Confrontation	Confronting	Problem-solving	Dominating
	Non-Confronting	Avoiding the issue	Avoiding the person

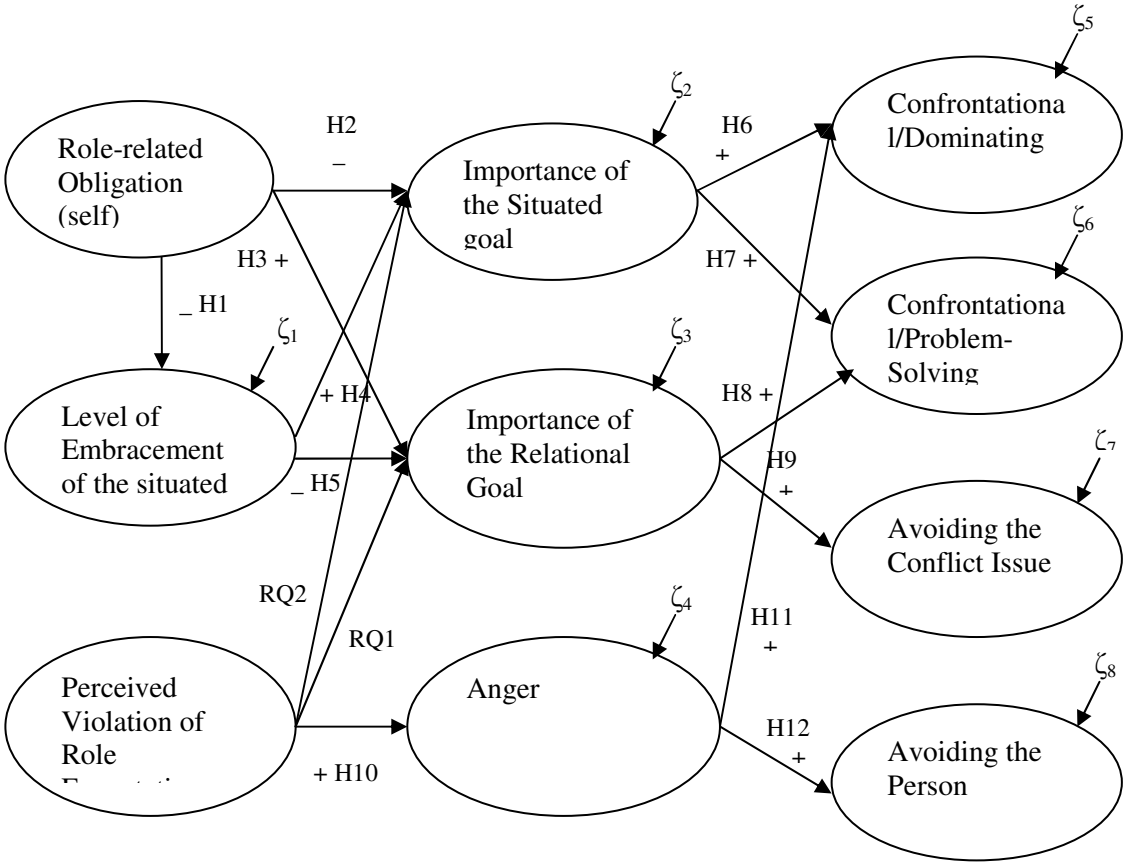


Figure 1. A model linking enactment of general and situated self-role and expectation of other's role to conflict strategies through goals and emotion.

From Obligation Associated to the General Roles to Embracement of the Situated Role

When an individual must enact multiple roles in a conflict situation, the prescriptive and proscriptive behavioral expectations of these roles exert pressures on the individual (Kahn et al., 1964). When these roles comprise incompatible expectations, role conflict occurs (Gross et al., 1958; Kahn et al., 1964). Therefore, priorities need to be assigned to these roles for actions to be determined (Getzels & Guba, 1954, p. 175). Gross et al. (1958) developed a theory of role conflict, proposing two dimensions of role expectations that determine ways of handling multiple roles: legitimacy and sanctions. Whereas legitimacy refers to the level of obligations associated with a role, sanctions refers to the level of reward and cost associated with not enacting the role. According to their theory, individuals "are predisposed to conform to expectations they perceive as legitimate … and are predisposed to avoid conforming to expectations which they perceive as illegitimate" (p. 316). Further, individuals will conform to a role when strong negative sanctions are associated with the failure of role enactment. In his reanalysis of data from five empirical studies, van de Vliert (1981) found support for Gross et al.'s theory: Individuals choose to enact roles that are legitimate and have fewer attached negative sanctions.

In a conflict situation, not enacting the situated role may have certain sanctions associated with it, such as not getting specfic needs fulfilled that are blocked by the conflict opponent. However, failure in fulfilling the obligation associated with the general role also has associated sanctions. When perceived legitimacy of obligation associated with the general role increases, the negative sanctions associated with not conforming to this role also increase. Therefore, given that the legitimacy for enacting the situated role

is relatively constant, greater obligation toward the general role is expected to result in reduced ability to embrace the situated role.

H1: Perceived obligation to fulfill other's needs and concerns related to the general role negatively affects the level of embracement of the situated role.

From Role Enactments to Goals

Goals are activated when there is a fit between the situational features and the cognitive rule that links situational features with desired states (Wilson, 1990, 1995). The situated goals, defined as goals regarding whatever are the primary issues in the conflict situation, are expected to be generated when the situated role is activated. Because goals are stored in corresponding cognitive structures, such as role-related schemata (Wilson, 1995), when the immediate situational features are perceived as matching the situated role-related cognitive structure where the situated goals are stored, these situated goals should be activated. Similarly, general goals should be activated when the situational features match the corresponding general role-related cognitive structure where general goals are stored. Specifically, obligation to fulfill other's needs and concerns should result in activation of relational goals, which is one type of general goal.

When obligation to fulfill the other's needs and concerns increases, the situational features related to the immediate conflict become less salient as concerns related to the general role become more salient. Thus, reduced salience of the situated role decreases the likelihood of activating the situated goal. In contrast, when embracement of the situated role increases, general role-related situation features becomes less salient, which reduces the likelihood of activating relational goals. Therefore, in a conflict situation,

individuals would be less likely to focus on their situated goals but more likely to pursue relational goals when they perceive greater obligation to fulfill the other's needs and concerns. In contrast, individuals will be more likely to pursue situated goals but less likely to pursue relational goals when their level of embracement of situated role increases. Four hypotheses result from this reasoning:

H2: Perceived obligation related to the general role to fulfill other's needs and concerns negatively affects the perceived importance of situated goals.

H3: Perceived obligation related to the general role to fulfill other's needs and concerns positively affects the perceived importance of relational goals.

H4: The level of embracement of the situated role positively affects the perceived importance of situated goals.

H5: The level of embracement of the situated role negatively affects the perceived importance of relational goals.

From Goals to Conflict Strategies

The situated goals are concerned with the resolution of whatever gave rise to the conflict situation. A greater desire to achieve the situated goals motivates individuals to actively pursue the conflict issue and to obtain one's own needs (Wilson & Putnam, 1990). The situated goal should motivate an individual to confront the conflict in order to achieve the desired outcome.

Both dominating and problem-solving strategies are confronting strategies that reflect an active pursuit of the conflict issue. The two styles differ in the amount of

concern for the other's outcome. Problem-solving is more cooperative and aims at achieving high joint outcomes rather than dominating strategies (Pruitt & Rubin, 1986). Past research has shown that a high concern for oneself predicts the dominating conflict style but not the problem-solving style (Oetzel & Ting-Toomey, 2003; Oetzel et al., 2001; Sorenson et al., 1999; van de Vliert, 1997), suggesting that there is a cooperative aspect to the problem-solving strategy.

Both dominating and problem-solving conflict strategies could be used to pursue a situated goal. To achieve a situated goal means to achieve whatever is in conflict. Although the nature of the situated goal in conflict is competitive, an individual could cooperate to achieve this goal (Montgomery, 1998; Wilson & Putnam, 1990). In other words, cooperative behaviors that result from high embracement of the situated role may be strategic to achieve situated goals. Therefore, high importance given to the situated goals may predict the use of both dominating and problem-solving confronting conflict strategies.

H6: Perceived importance of the situated goal positively affects the use of the dominant strategy.

H7: Perceived importance of the situated goal positively affects the use of the problem-solving strategy.

A relational goal may lead to the use of either active or passive strategies, which could affect relationship maintenance. Relational concerns have found to result in avoiding behaviors (Afifi & Guerrero, 2000; Bippus & Rollin, 2003; Kim & Leung, 2000; Leung, 1988; Pike & Sillars, 1985, Roloff & Ifert, 2000), cooperative behaviors (Oetzel & Ting-Toomey, 2003; Rubin & Brown, 1975; Tjosvold & Chia, 1989), or both (Ben-

Yoav & Pruitt, 1984; Corcoran & Mallinckrodt, 2000). Ben-Yoav and Pruitt (1984) argued that yielding and problem solving are two cooperative strategies a person may adopt when relational concern is high. They found that an expectation for relationship development resulted in lower joint outcomes when yielding was a feasible strategy than when yielding was not an option, indicating that yielding was even more desired than problem solving when concern for relational goals is high. Therefore, greater perceived importance of the relational goal is expected to predict the use of the two types of relational-protective conflict strategies: confronting problem-solving behaviors and nonconfronting behaviors of avoiding the conflict issue.

H8: Perceived importance of relational goals positively affects the use of the problem-solving strategy.

H9: Perceived importance of the relational goals positively affects the use of the avoiding-the-issue strategy.

From Expectation Violation to Anger

When an individual enacts a role, he or she has certain expectations as to how he or she should be treated by the other party. The other party's violation of role expectations may result in anger on the part of the focal individual because the individual may perceive that the other party is failing to fulfill an obligation, is violating social norms, or is treating the focal individual unfairly. These perceptions are widely recognized as causes for anger (Averill, 1983; Camras & Allison,1989; Denham & Bultemeier, 1993; Fisher & Johnson, 1990; Fisher et al., 1989; Leventhal, 1974; Scherer, Wallbott, & Summerfield, 1986).

When expectations are violated, anger may not occur when the causes are attributed to something external to the other party (Denham & Bultemeier, 1993; Roseman, 1984; Weiner, 1980; Weiner, Graham, & Chandler, 1982; Zillmann, 1994). When a role expectation is violated, however, internal attribution for behaviors (i.e., attributing the violation to the disposition of the other party rather than to external causes) may be more possible than external attributions. Nesdale (2001) conducted a study examining individuals' causal attributions and found that when expectations were determined by the situation, individuals attributed the expectation violation to dispositional reasons, whereas when expectations were determined by the actor's dispositions, individuals sought external explanations for any expectation violation. Because role expectations are determined by individuals' definition of the situation, violation of such situationally-determined expectations may be easier to be attributed to the other's disposition, holding the other person, as opposed to the situation, responsible. Holding the other person responsible is likely to result in anger.

H10: Greater perceived violation of role expectation by the other person results in more anger.

Although the rationale linking expectation violation to anger is supported by research, the relationship between expectation violation and interaction goals has not directly examined. However, individuals who perceive a negative violation of expectation may alter their goals for the rest of the conflict episode because of the violation. Thus, two research questions are asked to examine this possibility:

RQ1: Does the person's negative violation of role expectation affect the perceived importance of the situated goal?

RQ2: Does the person's negative violation of role expectation affect the perceived importance of the relational goal?

From Anger to Conflict Strategies

Anger can result in conflict handling behaviors that are ineffective in resolving the conflict (e.g., holding in the emotion without communication or venting the emotion aggressively) and trigger conflict escalation (Allred et al., 1997; Daly, 1991; Donohue, 1991; Pillutla & Murninghan, 1996; Zillmann, 1994). These behaviors of retaliating or avoiding communication with the other person can be destructive to the relationship with the other person (Guerrero, 1992; Tavris, 1982). Guerrero (1992) examined individuals' ways of communicating anger and found that most means for expressing anger were ineffective in resolving the conflict, such as distributive aggression (i.e., expressing anger directly and with threatening methods, such as abusive language, intimidation, and making demands), passive aggression (i.e., being unwilling or incapable of expressing strong anger directly and thus withholding resources or affection, or ignoring the other party), or nonassertive denial (i.e., not confronting the other party and shielding the emotion). Whereas aggressive anger expression may correspond to dominating conflict strategies, passive anger expression is similar to strategies of avoiding the other person. Therefore, greater anger is expected to predict the use of the two types of relational-disruptive conflict strategies: dominating strategies and avoidance of the person.

H11: Anger positively affects the use of the dominating strategy.

H12: Anger positively affects the use of avoiding-the-person strategy.

Chapter III

Method

This chapter describes the overall study design for testing the proposed model and hypotheses, pilot studies that examined the experimental materials including the manipulation and instruments, and the method for the main study. Three pilot studies were conducted to develop and improve experimental materials and instruments to be used in the main study. The main study tested the proposed model and hypotheses. Data collection started in January 2008 and ended in May 2008. All studies were conducted under the approval of the University of Maryland Internal Review Board (IRB).

Experimental Design

A conflict simulation was developed in which the two independent variables of the proposed model, obligation to fulfill other's needs and concerns and the other's violation of role expectation, were each manipulated at two levels (high vs. low), resulting 4 experimental conditions.

Inducing Conflict and Developing Manipulations

Inducing conflict situation. Three criteria needed to be met when developing a conflict situation. First, the situation should generate a conflict that can be perceived by both parties involved. Conflict-related thoughts, emotions and behaviors need to be assessed. Second, the conflict situation should allow immediate responses from the parties involved so that conflict-related thoughts, emotions and behaviors can be recorded within the time period of the experiment. In other words, after the conflict is perceived, the parties involved in the conflict should be given the opportunity to interact with each other and the possibility of resolving the conflict should they decide to do so. The

opportunity to interact and resolve the conflict makes it possible for the parties in conflict to use various conflict management behaviors during the experiment. This opportunity to interact allows the researcher to record conflict responses based on interaction as compared to experimental approaches that involve no interaction among conflict opponents. Finally, the conflict issue needs to be one that is familiar and believable to the participants. In other words, the role of "an experimental participant" should be maximally diminished for the participants during the study so that the fewest irrelevant roles are involved and the general and specific roles of interest are the focus of the experiment.

The definition of conflict as perceived disagreement of ideas, goals, thoughts, and interests between interdependent parties (Oetzel & Ting-Toomey, 2003) was used as the basic principle for developing the conflict situation. To find a context that would reflect the notion of conflict familiar to potential participants and one in which conflicts are frequently experienced, data collected in October 2007 were examined. Participants were undergraduate students from the same university as those recruited for this dissertation project. In this study, participants were asked to recall a past conflict and provide various responses to it. Eleven out of twenty (55%) of the reported conflicts were based on disagreements over ideas or goals in a group project for a class, at work, or in other kinds of team meetings (e.g., athletic team meetings). This finding showed that disagreement of ideas and goals reflects the basic notion of conflict for the majority of the participants, and that disagreement in group discussion for task completion is a context that is frequently experienced by the potential participants of this dissertation.

Using this context for conflict, a decision-making task (McGreevy, 1996) was developed for use in the current study. Participants were given the task of discussing and evaluating a group of candidates for a scholarship program for their university with another student, who was a confederate. The experimenter solicited the participant's ranking of the candidates. Then, without the knowledge of the participant (without being seen by the participants), the experimenter asked the confederate to argue for the opposite ranking that the participant gave (e.g., if the participant ranked four candidates, A, B, C, D, in the order, then the confederate would be asked to argue for "DCBA"). To increase the level of conflict, participants were told that one extra-credit point would be given to the person whose ranking matched the group ranking that the two discussants agreed upon. This extra-credit policy served the purpose of generating outcome-interdependency and competition between the conflicting parties, because only one party could obtain that one extra credit point if an agreement is reached. The reason for using one point rather than more points was because one point was expected to be enough to increase involvement and perceived level of conflict but low enough to not become the main focus of the conflict or give rise to suspicion over the purpose of the study. The instruction for the task read as follows:

> The committee for Special Academic Programs at the University of Maryland is finalizing its recommendation regarding the allocation of scholarship this year. There are 4 finalists. The one with the greatest potential to be successful in college will be awarded the scholarship. The faculty committee members are in the process of making their recommendation. However, the university also wants opinions from undergraduate students currently attending UMCP, believing that current students provide critical insights for evaluating the candidates' extracurricular records on their potential to be successful students at UMCP.
>
> On the next page, you will read a summary put together by the faculty committee from the candidates' application files. The four candidates have very similar academic qualifications (e.g., GPA, SAT scores) but different extracurricular

> experiences. Please consider the candidates' information carefully and rank the candidates from the most qualified (i.e., the one who you think should get the scholarship) to the least qualified. Then discuss your ranking with your discussion partner and come up with a ranking that you agree upon together. Your views will be combined with the faculty views to help determine the scholarship award. All responses will be anonymous and confidential.
>
> To encourage your participation and increase the level of seriousness of the discussion, the University would like to implement the following rule for your discussion. **If the ranking from you and your discussion partner is the same as the one you came up with individually, you will earn <u>1 MORE EXTRA CREDIT POINT</u>(or the points equivalent to attending another 30-minute study).**

Candidate information. Candidate background information was borrowed from McGreevy's (1996) study on the role of cognition and motivation in decision making. To examine how similar versus different information affects cognitive oscillation in the decision-making process, McGreevy developed background information for four different hypothetical candidates allegedly to be admitted to the participants' university (only three sets of background information were used in her final study). These four sets of background information were based on several pilot studies that solicited positive and negative attributes evaluated by undergraduate students. Although all the candidate information included positive and negative attributes, three included a majority of similarly-weighted positive attributes, whereas the fourth one involved a greater weight of negative attributes so that it could be more easily distinguished from the rest of the candidate information. The four sets of candidate information were slightly adapted for use in this dissertation to produce information of equivalent length. The different number of positive versus negative attributes involved across the four sets of information was not considered to be problematic, because conflict was induced by creating a reversed-order ranking between the participants. The candidate information reads as follows:

Candidate A is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to excelling in his studies, **Candidate A** is involved in many activities both within and outside of school. In school, he is captain of his high school lacrosse team and member of the debate team. He has served on student government boards all four years of high school. This year his classmates voted him vice president of SGA (student government association) two years in a row. His freshman year he served on the class council, and his sophomore year he was his class treasurer. **Candidate A** enjoys combing sports, debate and student government. He claims that these three activities have helped him with his critical thinking, arguing, and leadership skills. Outside of school, **Candidate A** volunteers for his community's Big Brother/Big Sister program. In addition to serving as a mentor to a child in the community, **Candidate A** is also active in his church's youth group. This group serves the community by getting involved in projects such as feeding the homeless, visiting nursing homes, and cleaning up the environment. **Candidate A** describes himself as confident and motivated. He is eager to start college and meet the challenges that lay ahead.

Candidate B is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of his school's soccer team and has helped the team reach the state championships three years in a row. In the spring, he volunteers as an assistant coach for one of his neighborhood's little league baseball teams. **Candidate B** credits sports with teaching him the value of hard work and determination. He believes that through hard work and determination, he can fulfill all of his goals. This philosophy has helped him succeed in the classroom as well as on the playing field. Last month he submitted an article he wrote for his school newspaper to a statewide competition and took home first place. **Candidate B** describes himself as outgoing and intelligent. He is co-captain of the math team, head of the yearbook staff, involved in student government, and loves to read. He has found a way of sharing his love for reading, and learning, with others. He volunteers once a week at a local nursing home reading to elderly patients. **Candidate B** considers himself a well rounded individual who manages his time well. He is very excited about starting college and meeting the challenges that await him.

Candidate C is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of the school's debate team, and has won several debate and public speaking competitions. **Candidate C** is also active in school politics. He is currently the President of the student government association (SGA). His junior year he served as Vice President of SGA and his freshman and sophomore year he sat on his class council. **Candidate C** is co-captain of his high school's varsity soccer team. He credits sports with teaching him the value of hard work and determination. Outside of school, **Candidate C** is active in the community. Each year he volunteers for his state's Special Olympics

program. Through the Special Olympics, he serves as an assistant soccer coach for a team of mentally retarded children. **Candidate C** also volunteers as a peer tutor at the local middle school. **Candidate C** enjoys children of all ages and is looking forward to returning to his summer job as a camp counselor. This will be his second year working for the camp. **Candidate C** considers himself confident, motivated and well rounded. He is excited about starting his college life and is determined to succeed in college.

Candidate D is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. While he hasn't participated in sports clubs at school, he is an avid skier and has recently become proficient at snow boarding. He also enjoys skateboarding. He has been a skateboarder since the age of 10 and has won some local skateboarding competitions. In the summer he likes to play tennis and mountain bike. **Candidate D** describes himself as a shy individual who likes to express himself through art and poetry. In keeping with his artistic nature, he is a proficient musician and plays the drums and both the acoustic and electric guitar. Recently he took his love for poetry and music and started a rock band with a few close friends. They entered their high school talent show and won the first place. When not at school or enjoying his extracurricular activities, **Candidate D** can be found at his part time job. He works as a busboy in a local restaurant. This is the third, and favorite, job he has had since entering high school. **Candidate D** considers himself well rounded and is very confident to be successful in college.

Obligation manipulation. To induce different levels of a general role-related obligation to fulfill other's needs and concerns, general versus specific roles needed to be generated. First, a general role needed to be created to induce obligation to fulfill the other's needs and concerns. In Cai et al.'s (2005) study, participants (undergraduate students from a large Eastern university) were asked to recall a recent conflict they experienced. Wang et al. (2007) analyzed Cai et al.'s data and found that friends (including boyfriends and girlfriends) were the most frequently reported conflict opponents (41% of total conflicts recalled). Such findings suggest that *friend* may be one of the most salient general roles for the participants. In addition, various interpersonal studies have demonstrated a positive correlation between friendship and level of

obligation to help (Roloff et al., 1988). Therefore, friend was used as the general role when inducing different levels of obligation.

After the participants finished reading the candidate information, they were asked to provide a ranking of their own for the four candidates on a separate page. On the next page, participants were either primed with the role of friend and then given instructions that were supposed to increase the level of obligation they perceived for the other party (i.e., high obligation condition) or they were told not to be influenced by any roles (e.g., friend), other than the specific role of being a student evaluator (i.e., low obligation condition). The high obligation instruction read as follows:

> *You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your discussion partner, please note:* To keep the group discussion as natural as possible, please consider your discussion partner as your **FRIEND**. That is, you are discussing the candidates with your **FRIEND**. In the discussion, although you and your friend might have different opinions, please keep in mind that she or he is your friend. Being a friend involves fulfilling your friend's needs and concerns the best you can and keeping the relationship with your friend good and solid.
>
> To help you take this perspective more naturally, please write down what obligations friends have for each other:

1.
2.
3.
4.

> Thank you for your answers! Now, you can start your discussion with your discussion partner and come up with a ranking that both of you agree upon.
>
> The low obligation instruction reads as follows:
>
> *You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your discussion partner, please note:* To keep the group discussion as effective as possible, please keep in mind that although you and your discussion partner might have met before, your concern for the other party's needs should not interfere

with your evaluation. For you, the concern for fulfilling the needs of the other party should not be mixed with the requirements of the task at hand.

To help you take this perspective more naturally, please write down what responsibilities are associated with this evaluation task for a student judge:

1.
2.
3.
4.

Now, you can start your discussion with your discussion partner and come up with a ranking that both of you agree upon.

Expectation violation manipulation. Because expectation violation can only come from the conflict opponent, expectation violation was manipulated by varying the confederate's conflict-handling behaviors. To develop behavior constraints for the confederates to violate participants' expectation for them, specific expectations from the participants for their discussion partners needed to be obtained. This information was solicited in the second pilot study. The confederates were trained to engage in expectation-violation behaviors so that participants' expectations were violated.

Instruments

This section introduces measures for all the dependent variables in the model and the manipulation checks for obligation and for the expectation-violation manipulation. Because four-item measures have been argued to induce the least bias in parameter estimation in structural equation modeling (Gagné & Hancock, 2006; Marsh, Hau, Balla, & Grayson, 1998), four-item measures were set as the target for each scale when developing instruments for some of the variables in the model. For other variables that were adapted from well-established measures with good reliabilities, shortened versions

of 4-items were used for each measure. For these measures, items that better fit the current experimental situation were selected.

Magnitude scales were used to measure all the items. Participants were asked to indicate their level of agreement with each statement on the questionnaire using any non-negative number. Larger numbers indicated greater levels of agreement. A "yardstick" was provided using the number "100" to represent a moderate level of agreement. Magnitude scales allow for more distinctions between different levels of the measured concept (Bauer & Fink, 1983; Woelfel & Fink, 1980).

Obligation (manipulation check). Obligation involves behavioral expectations that both the individual and others can legitimately demand from the focal person (Goffman, 1961), which reflects the notion of obligation being imposed by social norms (Linton, 1936). Based on this conceptualization, eight items were developed to assess the level of social constraints imposed by the general role on the individual. These items are potential measures for role-related obligation for fulfilling other's needs and concerns. The eight items are as follows: (1) I feel obligated to fulfill the needs and concerns of this person; (2) I should help this person even if I need to sacrifice my time; (3) I should help this person when he/she is in need, even if I don't like him/her very much; (4) I feel obligated to maintain a good relationship with this person; (5) I would contribute my resources as much as possible to help this person; (6) I feel that I should help this person even if I don't like doing what needs to be done to help him/her; (7) I feel that I should always keep in mind that this person is my friend in all situations; and (8) It is my responsibility to take care of this person if he/she is in trouble. Participants were asked to use any non-

negative number to indicate their agreement to each statement, where "0" represents not agreeing at all with the statement, and "100" represents a moderate level of agreement.

Role embracement. A measure of role embracement of the situated role was developed for this dissertation. Based on Goffman's (1961) conceptualization that role-embracement involves attaching to the role, demonstrating the capability of conducting the role activities, and exerting attention or effort into the role-related activities, the following four items were created: (1) I fully focused on my role as a student evaluator in the current situation, (2) I viewed the other person as student evaluator totally in the situation; (3) I have input much effort into handling the conflict as a student evaluator; and (4) I was fully embedded into the conflict situation. Magnitude scales were used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with the statements.

Expectation violation (manipulation check). Five items were developed in to measure expectation violation: (1) I did not expect the other person to behave like this (in a negative sense); (2) the other person's ways of dealing with the conflict surprised me negatively; (3) the other person's behavior in the conflict situation was not what an individual would do typically as a friend; (4) the other person's behavior in the conflict situation was not what an individual would do typically as a student evaluator; and (5) this person's behavior during the conflict negatively violated my expectation for him/her. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Situated goals. Situated goal refers to the goal of achieving whatever is at issue in the conflict, including needs, concerns, ideas, plans, objects, and arguments. Four items from Dillard et al.'s (1989) measure for the primary goal (i.e., the influence goal in an influence situation) were adapted to fit the conceptualization of primary goal in this dissertation. The four adapted items measuring the importance of the situated goal are as follows: (1) It is important to me to convince this person to do what I want him or her to do; (2) I am very concerned about getting what I wanted in this conflict situation; (3) I really don't care that much about whether I can get what I desire in this conflict; (4) it is not so important for me to get what I want in this conflict. A magnitude scale was used for each statement, where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Relational goals. Relational goals refer to one's desire to focus on relationship development or maintenance. One item (item 4 below) was adapted from Wang (2003) and then added to the 3-item measure for relational goals (item 1 to 3 below) from Dillard et al. (1989) to form the 4-item measure of this construct: (1) I will not be willing to risk possible damage to the relationship to get what I want; (2) Getting what I want is more important to me than preserving our relationship; (3) I don't really care if I'll make the other mad or not; (4) it is very important for me to maintain a good relationship with this person when I handle the conflict. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Anger. Four items from Liu (2006), which were adapted from Allred et al. (1997), were used to measure anger: Based on the other person's behaviors, (1) I feel upset; (2) I feel angry; (3) I feel annoyed; and (4) I feel irritated. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Dominating conflict strategies. Four items from the OCCI (Organizational Communication Conflict Inventory) developed by Putman and Wilson (1982) were adapted to fit the current situation to measure the dominating strategy: (1) I will argue insistently for my position; (2) I will assert my opinion forcefully; (3) I will insist my position be accepted during the conflict; and (4) I will stand firm in my views during the conflict. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Problem-solving conflict strategies. Four items from the OCCI developed by Putman and Wilson (1982) were adopted and used to measure the problem-solving strategy: (1) I will go fifty-fifty to reach a settlement; (2) I will give in a little on my ideas when the other person also gives in; (3) I will offer tradeoffs to reach solutions for our disagreement; and (4) I will blend my ideas with the other party's idea to create new alternatives for resolving a conflict. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a

moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Avoiding the issue. Four items from the OCCI developed by Putman and Wilson (1982) were adapted and used to measure the strategy of avoiding the conflict issue: (1) I will shy away from topics that are sources of dispute; (2) I will keep quiet about my views in order to avoid disagreements; (3) I will steer clear of disagreeable situations; and (4) I will hold my tongue rather than argue. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Avoiding the person. Four items were developed to measure this strategy: (1) I will avoid eye contact with this person; (2) I will try not to talk to this person; (3) I will refuse to deal with this person about this conflict situation; and (4) I will find other people to talk to besides this person if I still need to pursue what I want. A magnitude scale was used for each statement where "0" represents not agreeing at all with the statement and "100" represents a moderate level of agreement. Participants were asked to use any non-negative number to indicate their agreement with each statement.

Summary

This section introduced the overall experimental design, the materials for inducing conflict, and instruments for measuring all the dependent variables and manipulation checks in the model. A conflict situation was developed and manipulations for the independent variables, obligation to fulfill other's needs and concerns, were introduced. The realism of the experimental materials, the effectiveness of the conflict

inducement and the manipulation for obligation, the reliability for all the instruments, and the effectiveness and reliability of the confederate's performance will be examined in pilot studies. The manipulation of expectation violation was developed based on information obtained in the pilot study and its effectiveness was checked in the follow-up pilot studies.

Pilot Studies

Overview

This section reports three pilot studies. Pilot study 1 was conducted in December, 2007. Pilot studies 2 and 3 were conducted between the period of March and April, 2008. Participants were recruited through an online research participation pool system, where only the system-assigned ID was used as identification of the participants. This system also helped to limit the participants so that they attended only one of the four studies of this dissertation (three pilot studies and one main study). All participants were given a small amount of extra credit for the class they take in that semester.

Pilot Study 1: Instrument Reliability and Preliminary Model Testing

Purpose and Overview

The purpose of this pilot study was to examine the reliability of all the instruments developed or adapted for the variables in the model. To provide a realistic conflict scenario to which participants' responses could be solicited and the measures to be tested could be used and examined, a commonly used approach in the conflict literature was adopted in this pilot study (Cai & Fink, 2002; Cai et al., 2005; Oetzel & Ting-Toomey, 2003). Participants were asked to recall a recent conflict situation and provide their responses to the conflict. One independent variable in the proposed model,

obligation from the general role, was manipulated by asking the participants to recall a conflict with either a friend or an opponent. The other independent variable, expectation violation, was measured rather than manipulated due to concern about a lack of precision in participants' recall of the conflict details, which may prevent the conflict situations that involve expectation violation to be distinguished from those that did not involve expectation-violation behaviors.

Phase 1: Evaluating the Wording of the Measures

To make sure that the wording of the items for each measure is interpretable for the potential participants, eight undergraduate students (M_{age} = 19.62, SD = 0.74, Mdn = 19.50, range = 19-21) in a large eastern university were recruited to evaluate the wording of all the questionnaire items. The participants were 2 males and 6 females. One was a freshman, two were juniors, and five were sophomores. Five reported being Caucasian, one Latin American, one Asian American, and one African American. Participants all received a small amount of extra credit after participating in this study.

Questionnaire and procedure. Participants came to the classroom at a designated time. After they signed a consent form, each person was given one of the two versions of the questionnaire that included the following: (1) an instruction asking the participant to recall a recent conflict situation with a friend (Version A) or an opponent (Version B) to induce high versus low levels of obligation between the participant and the other person, followed by (2) a question asking the specific role the participant and his or her conflict opponent had in the conflict (e.g., a teammember, a salesperson), (3) the eight items of the obligation scale, (4) the four items of the situated-goal importance scale, (5) the four items of the relational-goal importance scale, (6) the four items of the role-embracement

scale, (7) the four items of the expectation violation scale, (8) the four items of the anger scale, (9) the four items of the dominating scale, (10) the four items of the problem-solving scale, (11) the four items of the avoiding the topic scale, (12) the four items of the avoiding the person scale, and (13) questions requesting demographic information. Because the specific role assumed in each conflict recalled by participants varied, the items of the role-embracement measure were slightly adapted so that items 1 to 3 of the measure read as follows: (1) I fully focused on my role as _____ (the role you assumed in question L above) in the current situation, (2) I viewed the other person as _____ (the role you assumed as indicated in question K above) completely in the situation; (3) I put much effort into handling the conflict as _____ (the role you assumed as indicated in question L above).

Participants were asked to read the questionnaire carefully and, instead of completing the questionnaire, write down on the blank area beside each question if there was anything in each question that did not make sense to them, that they could not understand, or that they found difficult to answer. After the evaluation was finished, the participants were asked to complete the demographic information requested on the questionnaire. After the study, participants who made comments on the questionnaire were interviewed and asked to elaborate their views.

Results. The participants reported that all the questions were understandable and easy to answer for them except for some items in the obligation scale. One participant mentioned that item 7 in the obligation scale ("I feel that I should always keep in mind that this person is my friend despite the situation") was difficult to answer and suggested changing the wording to "regardless of the situation" or "in all situations." This

participant also found item 8 (“it is my responsibility to take care of this person if he/she is in trouble”) to be unclear and very difficult to answer. Another participant reported that item 2 (“I should help this person even if I need to sacrifice my time”) and item 5 (“I would contribute my resources as much as possible to help this person”) were unclear. Specifically, this participant pointed out that the idea of resources needed to be specified, such as time, money, or other, as people would respond differently to different types of resources. Three participants reported that item 3 (“I should help this person when he/she is in need even if I don’t like him/her very much”) was not understandable, indicating that if the other party was a friend, half of the sentence wouldn’t apply (i.e., “even if I don’t like him/her very much”) because friendship was based on liking.

Based on the comments and suggestions from the participants, items 2 and 5 regarding resources were removed from the obligation measure to avoid confusion. Other questions (e.g., items 1 and 6) regarding general intention to help were expected to address the idea of obligation to contribute to the other. Item 3 (“I should help this person when he/she is in need even if I don’t like him/her very much”) was deleted from the questionnaire, because the sentence would not apply to the friend relationship for the participants of the final study. Item 8 (“it is my responsibility to take care of this person if he/she is in trouble”) was also deleted from the scale because the idea of “the responsibility” and “in trouble” was not clear to the participants. Finally, the wording of item 7 was revised; the phrase “despite the situation” was replaced by “in all situations.”

After the revisions, the final version of the obligation scale had four items: (1) I feel obligated to fulfill the needs and concerns of this person; (2) I feel obligated to maintain a good relationship with this person; (3) I feel that I should help this person

even if I don't like doing what needs to be done to help him/her; and (4) I feel that I should always keep in mind that this person is my friend in all situations. Items for the rest of the measures were not changed.

Two participants pointed out that the role of opponent was unclear and were not sure what type of role was being asked about. Therefore, the role in Version B that corresponds to "friend" in Version A was changed to acquaintance. This comparison role of friend versus acquaintance was expected to serve the same purpose as inducing different levels of obligation between the participant and the other party in the conflict they recalled (see Appendix A for the complete questionnaire).

Phase 2: Testing the Scale Reliabilities

Participants. Participants were 265 undergraduate students in a large eastern university (M_{age} = 19.53, *SD* = 1.48, *Mdn* = 19.00, range = 18-30). The sample included 131 males (49.4%) and 134 females (50.6%). One hundred and fourteen participants (43%) reported their ethnicity as Caucasian. There were 39 African American (14.7%), 32 Asian American or Asian (12.1%), 13 Hispanic or Latin American (4.9%), 8 central Asian (3.0%), 5 Jewish (1.9%), and 1 Arab or Arab American (.4%). Four participants (1.5%) reported "Other." Some participants reported multiple ethnic identities, among them were thirty-two participants (12.1%) who reported being both Jewish and Caucasian and the remaining 16 participants (6.3%) reported various mixed ethnic identities. One participant did not respond to the question about ethnicity.

Questionnaire and procedure. The revised questionnaire from phase 1 of the current pilot study includes the following sections (see Appendix A for the complete questionnaire). First, participants were given the definition and an example of a general

role and a specific role. They were then asked to recall a recent conflict situation with a friend (Version A) or an acquaintance (Version B). Conflict was defined in the instructions as a disagreement over certain ideas, plans, goals, or limited resources.

Next, a question regarding the closeness between the participant and the other was asked, followed by the 4-item obligation measure, five questions asking about the perceived severity and importance of the conflict, and the mutual influence the person and the other party have on each other. Four sets of conflict management strategy statements (16 items) were given, followed by questions in which participants were asked to indicate their specific role and the other party's specific role in the conflict situation.

Also included were a series of statements including the 4-item situated goal measure, the 4-item relational goal measure, and the 4-item expectation violation measure. Finally, participants were asked to list anything the other person did or did not do that upset them, followed by the 4-item scale to measure anger. The questionnaire concluded with a set of questions requesting demographic information.

Participants read and signed the informed consent form before the study started. None of the participants declined to participate after reading the consent form. Questionnaires were then distributed and completed during a 45-minute time period. Participants were dismissed after they completed the questionnaire.

Data preparation. Out of 265 cases, ten cases had missing data for a total of 32 missing values. Missing data analysis in SPSS demonstrated that these 32 missing values spread randomly across the 10 cases with the percent for each case varying from 0.4% to 2.3%. In a summary of methods for handling missing data, Kline (2005) noted that non-systematic missing values can be ignored in data analysis by using either pairwise or

listwise deletion in computation. Pairwise deletion only delete cases with missing values that are involved in the immediate computation, whereas listwise deletion omit all the cases with missing values regardless whether the variable deleted is included in the immediate computation or not. As a result, when missing values are spread across many cases, using listwise deletion reduces the case number involved in the analysis (Kline, 2005). However, Kline argued that pairwise deletion is not preferred for use in structural equation modeling analysis. In pairwise deletion, each entry of the covariance matrix may not be computed from the same number of cases because different cases were used in the computation depending on the presence of the missing values in each case. This difference in the number of cases can cause problems for the model in which the implied covariance structure is to be calculated using data with listwise deletion. Therefore, in this pilot study, listwise deletion was used for structural equation modeling (SEM) analyses, such as confirmatory factor analysis for the measurement model and preliminary testing of the theoretical model. Pairwise deletion was used for all other computations or analyses.

Data trimming and transformation. Because SEM would be used to test the one factor structure for each measurement model, the data were examined to check whether the multivariate normality assumption was plausible for the maximum likelihood estimation method to be used in the analysis. Kline (2005) pointed out that for analyses with more than three variables, examining all aspects of multivariate normality can be very difficult. Instead, researchers can examine the univariate normality for each variable to detect problems in multivariate normality.

The skewness statistic and the kurtosis statistic were used as the indicators for evaluating whether the population assumption of normality for individual variables was plausible. Kline (2005) maintained that relying on the significance level of skewness and kurtosis in evaluating normality is problematic because the standard error for these two statistics is sensitive to sample size. That is, a greater sample size yields smaller standard errors, which could result in significant values that may not appear in smaller samples. He proposed the use of the absolute value of skewness and kurtosis. Based on a review of the existing literature regarding the cutoff value for these statistics, Kline concluded that the absolute value of three for skewness and ten for kurtosis was the "conservative rule" for evaluating univariate normality. Skewness greater than three and kurtosis greater than ten indicate a problem in deviating from normality (Kline, 2005). This rule was adopted for these analyses.

Descriptive statistics were obtained for all measured variables to examine univariate normality. Among the 40 items (four indicators for each of the ten measured variables), 32 items had skewness values greater than 3 and 35 items had kurtosis values greater than 8, indicating the implausibility of population multivariate normality (see Appendix B). Therefore, data trimming and transformation were needed to achieve normality (Bauer & Fink, 1983; Kline, 2005).

Data trimming in this study refers to recoding the values of the extreme cases or influential outliers to lower values. Therefore, although different percentages of the data points would be recoded based on different trimming methods, none of the data points in this study were dropped at this stage. Two trimming methods were considered. One method was to trim the data based on the strict definition of outlier (i.e., numbers greater

than two standard deviation away from then mean, or above the 95th percentile). This method prevents influential outliers from affecting data analysis, but it also may unnecessarily affect data points that are not influential outliers. The other method was to trim data to the top fifth extreme value, or to about the 98th percentile. This method affects fewer data points but allows some extreme values in the data. Whether these values are influential or not is an empirical question. To be sure that influential outliers were trimmed with the least effect on the overall data, both trimming methods were used and compared. The one that yielded absolutely smaller skewness and kurtosis values after transformation was adopted for the analysis in this pilot study.

First, each measured item was trimmed to the 95th percentile and then to the fifth highest extreme value. Because all the items were measured by magnitude scales, which are unbounded at the upper end, most of the data generated were positively skewed (Bauer & Fink, 1983). Therefore, the following power function recommended by Bauer and Fink (1983) was used to transform data to approximate a normal distribution:

$$Y^* = (Y + k)^{\lambda},$$

where Y^* is the transformed variable, Y is the original variable, k is a constant, and λ is the power value ($\lambda \neq 0$). Because k = 0 yielded the best combined skewness and kurtosis scores for all the transformed items, the actual equation used for the items was $Y^* = Y^{\lambda}$ (see Appendices C & D for the λ used for each item for the two trimming methods). After transformation, the skewness and kurtosis for all the items for both trimming methods were below the cutoff value of deviation from normality (see Appendices C & D). The skewness for all the items was within the range of -1 to 1 for both trimming methods. Data trimmed to the 95th percentile yielded better kurtosis (all within the range -1.95 to 1)

than the fifth-highest-extreme-value trimming method (kurtosis within the range -1.73 to 3.60) (see Appendices C & D). Therefore, transformed data that were trimmed to the 95th percentile was used in the following analyses.

Reverse coding. Items 4 and 5 of the situated goal importance measure and items 2 and 3 of the relational goal importance measure were reverse coded by multiplying the transformed values for these four items by -1.

Reliability

Cronbach's α was obtained for each scale (Table 2). The majority of the measures had adequate reliability, with Cronbach's αs above .82. The reliabilities for the situated goal importance and avoiding-the-person strategy measures were .74 and .79, which are slightly better than the cutoff value of .70. The relational goal importance measure had the lowest reliability (α = .60). Because component scores, not sums or averages of scale items, will be used in later analyses, the one-facture-structure for each scale needs to be tested.

Testing the one-factor structure. Confirmatory factor analysis (CFA) based on covariance matrices was conducted to test the fit of the one-factor structure for the measurement models. LISREL 8.80 (Jöreskog & Sörbom, 2006) was used to conduct the CFA. Maximum likelihood was the method of estimation. Hu and Bentler's (1999) criteria for evaluating model fit was used in this study. These researchers reviewed a variety of fit indices used in studies using structural equation modeling and summarized three classes of model fit indices: indices that evaluate incremental fit (NFI, NNFI, and CFI), absolute fit (χ^2, GFI, and SRMR) and model parsimony (AIC, AGFI, and RMSEA). They argued that the χ^2 statistic needs to be used with caution when evaluating model fit

Table 2

Scale Reliabilities for All the Measures Based on the Transformed Data

Variable	Valid *N*	Reliability (Cronbach's α)	Number of Items
Obligation to fulfill others' needs and concerns	264	.86	4
Role-embracement for the specific role	255	.82	4
Expectation violation	265	.89	4
Situated goal	265	.74	4
Relational goal	263	.60	4
Anger	265	.93	4
Dominant conflict strategy (confronting and relational-disruptive strategy)	264	.88	4
Problem solving conflict strategy (confronting and relational-protective strategy)	261	.84	4
Avoid the topic conflict strategy (avoiding and relational-protective strategy)	265	.89	4
Avoid the person conflict strategy (avoiding and relational-disruptive strategy)	262	.79	4

because the χ^2 test is very sensitive to sample size, and the proposed joint criteria that combine the above three classes of indices: (1) NNFI, CFI $\geq$ .96 and SRMR $\leq$ .09, or (2) SRMR $\leq$ .09 and RMSEA $\leq$ .06. In evaluating the measurement model fit for this pilot study, these two sets of joint criteria were used in evaluating model fit. Table 2 lists the fit indices for each measurement model and the standardized and unstandardized factor loadings for each indicator.

As displayed in Table 3, most of the measurement models' fit indices met one or both of the joint criteria proposed by Hu and Bentler (1999) (i.e., NNFI, CFI $\geq$ 0.96 and SRMR $\leq$ 0.09, or SRMR $\leq$ 0.09 and RMSEA $\leq$ 0.06). The factor loadings for all the scale items were satisfactory (standardized loadings greater than 0.40; see Gagné & Hancock, 2006, for the evaluating standard for standardized factor loadings). However, despite the significant standardized factor loadings, the fit indices for the situated goal, relational goal, and anger scales were not satisfactory. These models yielded significant model χ^2s, NNFIs smaller than 0.96, and RMSEAs greater than 0.10. The situated goal measurement model fit especially poorly for the one factor structure, with all the fit indices extremely deviating from the desired values. The three scales were then examined to detect problems with the one-factor structure.

To explore whether more than one factor could be extracted from each of the three scales, unrotated principal component analyses were conducted to extract factors with eigenvalues greater than 1. Only one component was extracted from the anger scale (eigenvalue = 3.33, 83.25% of variance explained) and from the relational-goal scale (eigenvalue = 2.22; 55.48% of variance explained). However, two components were extracted from the four items of the situated-goal scale (first component: eigenvalue =

Table 3

Fix Indices from the Confirmatory Factor Analysis for the Measurement Models; Standardized and Unstandardized Factor Loading for Indicators

Factors and the Corresponding Indicators	Standardized loadings (unstandardized)
Obligation	
I feel obligated to fulfill the needs and concerns of this person	.75** (1.00)
I feel obligated to maintain a good relationship with this person	.75** (1.11)
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	.81** (1.13)
I feel that I should always keep in mind that this person is my friend (or ally) in all situations.	.80** (1.28)
$\chi^2(2, N = 264) = 4.01$, $p = .11$; RMSEA = .06; SRMR = .02; NNFI = .99; CFI = 1.00	
Role-embracement	
I fully focused on my role as a _____ (what you mentioned above in question **L**) in the current conflict situation.	.90** (1.00)
I viewed the other person as a _____ (what you mentioned above in question **K**) totally in the conflict situation.	.72** (.81)
I have input much effort into handling the conflict as a _____ (what you mentioned in question **L**) in the conflict situation.	.87** (.95)
I was fully embedded into the conflict situation.	.42* (.41)
$\chi^2(2, N = 255) = 12.18$, $p = .002$; RSMEA = .14; SRMR = .03; NNFI = .94; CFI = .98	
Expectation violation	
I did not expect the other person to behave like this (in a negative sense).	.72** (1.00)
The other person's ways of dealing with the conflict surprised me negatively.	.84** (1.13)
The other person's behavior in the conflict situation was not what an individual would do typically as a friend (or an ally).	.85** (1.15)
This person's behavior during the conflict negatively violated my expectation for him/her.	.87** (1.18)
$\chi^2(2, N = 265) = 1.51$, $p = .42$; RSMEA = .00; SRMR = .01; NNFI = 1.00; CFI = 1.00.	

Table 3 (Continued)

Factors and the Corresponding Indicators	Standardized loadings (unstandardized)
Situated goal	
It was important to me to convince this person to do what I wanted him or her to do.	.72** (1.00)
I was very concerned about getting what I wanted in this conflict situation.	.88** (1.34)
I really didn't care that much about whether I could get what I desired in this conflict (reverse coded).	.45* (.57)
It was not so important for me to get what I wanted in this conflict (reverse coded).	.40* (.51)
$\chi^2(2, N = 265) = 129.85$, $p < .01$; RSMEA = .51; SRMR = .18; NNFI = -.56; CFI = .48.	
Relational goal	
I was not willing to risk possible damage to the relationship to get what I wanted.	.59* (1.00)
Getting what I wanted was more important to me than preserving our relationships (reverse coded).	.67* (1.05)
I didn't really care if I'd make the other mad or not (reverse coded).	.61* (.90)
It was very important for me to maintain a good relationship with this person when I handled the conflict	.68* (.09)
$\chi^2(2, N = 263) = 15.07$, $p < .01$; RSMEA = .16; NNFI = .85; SRMR = .05; CFI = .95.	
Anger	
To what extent did these behaviors you listed above upset you?	.87** (1.00)
what extent did these behaviors you listed above make you angry?	.85** (1.17)
To what extent did these behaviors you listed above make you feel annoyed?	.89** (1.17)
To what extent did these behaviors you listed above make you feel irritated?	.91** (1.13)
$\chi^2(2, N = 265) = 44.99$, $p < .01$; RSMEA = .29; SRMR = .03; NNFI = .88; CFI = .96	
Dominant conflict strategy	
I argued insistently for my stance	.85** (1.00)
I asserted my opinion forcefully	.91** (1.05)
I insisted my position be accepted during the conflict	.79** (.92)
I stood firm in my views during the conflict	.58** (.84)
$\chi^2(2, N = 264) = .39$, $p = .82$; RSMEA = .00; SRMR = .005; NNFI = 1.01; CFI = 1.00	

Table 3 (Continued)

Factors and the Corresponding Indicators	Standardized loadings (unstandardized)
Problem-solving conflict strategy	
I went fifty-fifty to reach a settlement	.70** (1.00)
I gave in a little on my ideas when the other person also gave in	.74** (.91)
I offered tradeoffs to reach solutions for the disagreement	.78** (1.01)
I blended my ideas with the other party to create new alternatives for resolving a conflict	.79** (1.10)
$\chi^2(2, N = 261) = .64$, $p = .72$; RSMEA = .00; SRMR = .007; NNFI = 1.01; CFI = 1.00.	
Avoiding the topic conflict strategy	
I shied away from topics that are sources of disputes.	.82** (1.00)
I kept quiet about my views in order to avoid disagreements	.83** (.92)
I steered clear of disagreeable situations	.87** (1.04)
I held my tongue rather than argued	.73** (.89)
$\chi^2(2, N = 265) = 4.23$, $p = .12$; RSMEA = .07; SRMR = .02; NNFI = .99; CFI = 1.00.	
Avoiding the person conflict strategy	
I avoided eye contact with this person after the disagreement occurred.	.71** (1.00)
I tried not to talk to this person during the task	.94** (1.31)
I refused to deal with this person about this disagreement.	.58** (.90)
I talked to other person regarding the issue rather than dealing directly with the person I disagreed with.	.45* (.67)
$\chi^2(2, N = 262) = 4.88$, $p = .09$; RSMEA = .08; SRMR = .03; NNFI = .98; CFI = .99.	

*$p < .05$, **$p < .01$.

Note. The parameter estimate for the unstandardized loading of the first item of each scale was fixed to 1 for that item to be a reference indicator.

2.25, 56.23% of variance explained; second component: eigenvalue = 1.16, 29.07% of variance explained). To detect which items loaded on each component, a principal component analysis with varimax rotation was conducted to explore the two-factor structure. The component matrix showed that items 1 and 2 loaded highly on the second component (loading .92 and .88. respectively). Items 3 and 4 loaded highly on the first component (loading .91 and .93, respectively).

For the anger scale, modification indices in the CFA were examined for the anger measurement model. Modification indices showed that after allowing the errors of item 1 (i.e., "To what extent the above behaviors upset you?) and item 2 (i.e., " To what extent the above behaviors made you angry?") to covary, the model fit would improve drastically: $\Delta\chi^2(1, N = 265) = 44.72, p < .01$, indicating that something in common between the two items other than anger was left unexplained in the error. Re-reading the questions suggested that the similar wording among the items may be the most likely reason for the error covariance. Therefore, the original one-factor structure of the anger scale was maintained and all four items were kept in the scale for the following reasons: (1) only one component could be extracted from the scale; (2) the loadings of all four items on the first component (and the only component with an eigenvalue greater than 1) were high (see Table 2), (3) the potential common cause of similar wording was not of sufficient concern in the model as a variable, and (4) the fit indices of this scale were close to the fit standard with both SRMR and CFI above the cutoff value, but the NNFI slightly below the standard (see Table 2), although adding the error covariance between item 1's error and item 2's error resulted in an almost perfect fit of the one factor

structure ($\chi^2[2, N = 265] = 0.27$, $p = .61$; RSMEA = 0.00; NNFI = 1.00; SRMR = 0.00; CFI = 1.00).

For the relational-goal-importance scale, the modification indices from the CFA suggested that allowing the errors of items 2 and 3 to covary would increase model fit ($\Delta\chi^2[1, N = 263] = 15.02$, $p < .01$), indicating that something other than the common factor of relational goal was left unexplained in the error. Each scale item was then reexamined. The most likely reason for the error covariance of items 2 and 3 seems to be that items 2 and 3 were reverse coded. So, the wordings of items 2 and 3 share some commonality that is different from the wording of items 1 and 4. In addition, the specific wording of the reverse-coded questions may have contributed to the covariance between the error terms of items 2 and 3. If this speculation is valid, then revising the wording of items 2 and 3 to avoid reverse cording should improve the fit of the one-factor structure. Therefore, item 2 was revised from "getting what I wanted is more important to me than preserving our relationships" to "it is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this situation." Item 3 was revised from "I don't really care if I'll make the other mad or not" to "I need to be careful to not make the other person mad."

Finally, for the situated-goal-importance scale, reexamining the two factors extracted by the principal components analysis showed that items 3 and 4, which were reverse coded, loaded on a different factor than items 1 and 2. Other than the different coding process, items contributing to the two factors did not seem to differ in other obvious aspects. Therefore, items 3 and 4 were revised to avoid reverse coding. The two new items were "I care very much about whether I can get what I desire in this situation"

and “it is really important for me to get what I want in this discussion,” replacing the original item 3 (“I really didn’t care that much about whether I could get what I desired in this conflict”) and item 4 (“it was not so important for me to get what I wanted in this conflict”).

Preliminary Testing of the Theoretical Model

Although the purpose of this pilot study was to test scale reliability for all the measures, a preliminary testing of the proposed theoretical model was conducted for three reasons. First, most of the scales were highly reliable with a one-factor structure, which made it feasible to test hypotheses and model fit with the measured variables. Second, the sample size of this pilot study is acceptable for testing the theoretical model (see Table 4 for the structural equations and the degrees of freedom of the structural model). There were in total 36 free parameters to be estimated. With 245 valid cases, the number of participants per parameter was 6.81, which was within the preferred range of 5-15 participants per parameter (Bentler & Chou, 1987). Finally, the current study method was appropriate for testing the proposed model because the conflict situation was the actual experience of the participants, although errors in recalling and various extraneous variables, such as the type (e.g., task vs. relational) and duration of the conflict, rendered this method not as desirable as a the more rigorous experimental design to be tested later.

In addition, only the theoretical model, as opposed to the combined model of the structure and measurement model, was tested because lack of support for the one factor structure for the situated goal scale resulted in only two items from the scale used for model testing. Testing the measurement model with fewer than four items for each factor

Table 4

Structural Equations of the Model to be Tested and Parameters to be Estimated

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	ζ
η_1	=	γ_{11}											ζ_1
η_2	=			β_{21}									ζ_2
η_3	=		γ_{32}	β_{31}	β_{32}								ζ_3
η_4	=		γ_{42}	β_{41}	β_{42}								ζ_4
η_5	=		γ_{52}										ζ_5
η_6	=					β_{63}		β_{65}					ζ_6
η_7	=					β_{73}	β_{74}						ζ_7
η_8	=						β_{84}						ζ_8
η_9	=							β_{95}					ζ_9

Note. There are a total of 36 free parameters to be estimated: 11 free parameters in the $\underline{B}$ matrix, 4 free parameters in the $\underline{\Gamma}$ matrix, 3 free parameters in the $\underline{\Phi}$ matrix (the two independent variables are allowed to covary), and 18 free parameters in the $\underline{\Psi}$ matrix (9 error variances plus 9 error covariances). Therefore, the degrees of freedom of this model is $df = (11X12)/2 - 36 = 30$.

requires a greater sample size to achieve the adequate power (Marsh, Hau, Balla, & Grayson, 1998). The current sample size was not large enough to test the measurement model with fewer than four items per factor.

A principal component score was extracted from each scale for use in testing the model (Table 5). Only non-reverse recoded items from the situated goal (items 1 and 2) were included for the composite score due to the lack of fit of the one-factor structure of the measurement model. For the remaining measures, all four items of the scale were included to obtain the component score. The covariance matrix of the independent and dependent variables was used to test the model.

As stated earlier, only one independent variable (i.e., obligation) was manipulated. The other independent variable, expectation violation, was measured. The theoretical model to be tested is displayed in Figure 2. The current study design did not control for various extraneous variables, so the following errors were allowed to covary. First, because the wording of the situated goal items and relational goal items involved similar phrases, such as comparing the importance of the desire for winning the discussion with the importance of relationship, ζ_3 and ζ_4 (i.e., the errors associated with the latent variables of situated goal importance and relational goal importance) were allowed to covary to explain the similarity in wording. Second, because the survey could not control for the temporal order of goals and other measures, it could be argued that the situated-goal-importance and relational-goal-importance measures may assess thoughts during the situation that have been already influenced by anger. Therefore, ζ_3 and ζ_5 (i.e., the errors associated with the latent variables of situated goal importance and anger), and ζ_4 and ζ_5 (i.e., the errors associated with the latent variables of relational goal importance and

Table 5

Eigenvalues of the First Extracted Component from the Principal Component Method for Each Measure Based on the Transformed Data and Variance Explained by Each Components

Components and the Corresponding Indicators	Eigenvalue	% of variance explained
Obligation	2.81	70.25%
Obligation 1		
Obligation 2		
Obligation 3		
Obligation 4		
Role-embracement	2.61	65.17%
Role-embracement 1		
Role-embracement 2		
Role-embracement 3		
Role-embracement 4		
Expectation violation	3.02	75.47%
Expectation violation 1		
Expectation violation 2		
Expectation violation 3		
Expectation violation 4		
Situated goal importance	2.25*	56.23%
Situated goal 1		
Situated goal 2		
Situated goal 3		
Situated goal 4		
Relational goal importance	2.22	55.48%
Relational goal 1		
Relational goal 2		
Relational goal 3		
Relational goal 4		
Anger	3.33	83.25%
Anger 1		
Anger 2		
Anger 3		
Anger 4		
Dominant strategy	2.97	74.08%
Dominant strategy 1		
Dominant strategy 2		
Dominant strategy 3		
Dominant strategy 4		

Table 5 (continued)

Components and the Corresponding Indicators	Eigenvalue	% of variance explained
Problem-solving strategy	2.67	66.63%
Problem-solving 1		
Problem-solving 2		
Problem-solving 3		
Problem-solving 4		
Avoid the topic strategy	2.99	74.65%
Avoid the topic 1		
Avoid the topic 2		
Avoid the topic 3		
Avoid the topic 4		
Avoid the person strategy	2.48	61.94%
Avoid the person 1		
Avoid the person 2		
Avoid the person 3		
Avoid the person 4		

*Based on item 1 and 2 for situated goal scale.
Note. Only the first extracted component for each scale has an eigenvalue greater than 1.

anger) were allowed to covary. Similarly, due to a lack of control for the temporal order of the variables, ζ_2 and ζ_5 (i.e., the errors associated with the latent variables of role embracement and anger) were allowed to covary to account for any effects between role embracement and anger due to the lack of control in the study design. Finally, because the four conflict strategies belong to the general dimension of confronting to avoiding, ζ_7 and ζ_6 (i.e., the errors associated with the latent variables of dominating and problem-solving strategies), ζ_6 and ζ_8 (i.e., the errors associated with the latent variables of dominating and avoiding-the-topic strategies), ζ_7 and ζ_8 (i.e., the errors associated with the latent variables of problem-solving and avoiding-the-topic strategies), ζ_7 and ζ_9 (i.e., the errors associated with the latent variables of problem-solving and avoiding-the-person strategies), and ζ_8 and ζ_9 (i.e., the errors associated with the latent variables of avoiding-the-topic and avoiding-the-person strategies) were allowed to covary to account for similarity in approaching versus avoiding behaviors. ζ_6 and ζ_9 (i.e., the errors associated with the latent variables of dominating and avoiding-the-person strategies) were not allowed to covary, however, because avoiding the person could be interpreted as passive aggressiveness, which may not be specifically related to the dominating strategy (Guerrero, 1992).

Testing the interaction effect of the two independent variables. Although the interaction effect of general role obligation and expectation violation on all the dependent variables in the model was not hypothesized, regression analyses were conducted to examine the potential interaction and the necessity for the interaction term to be included in the model. First, an interaction term was created by coding the obligation manipulation as -1 (low obligation) and 1(high obligation) and then taking the product of the obligation

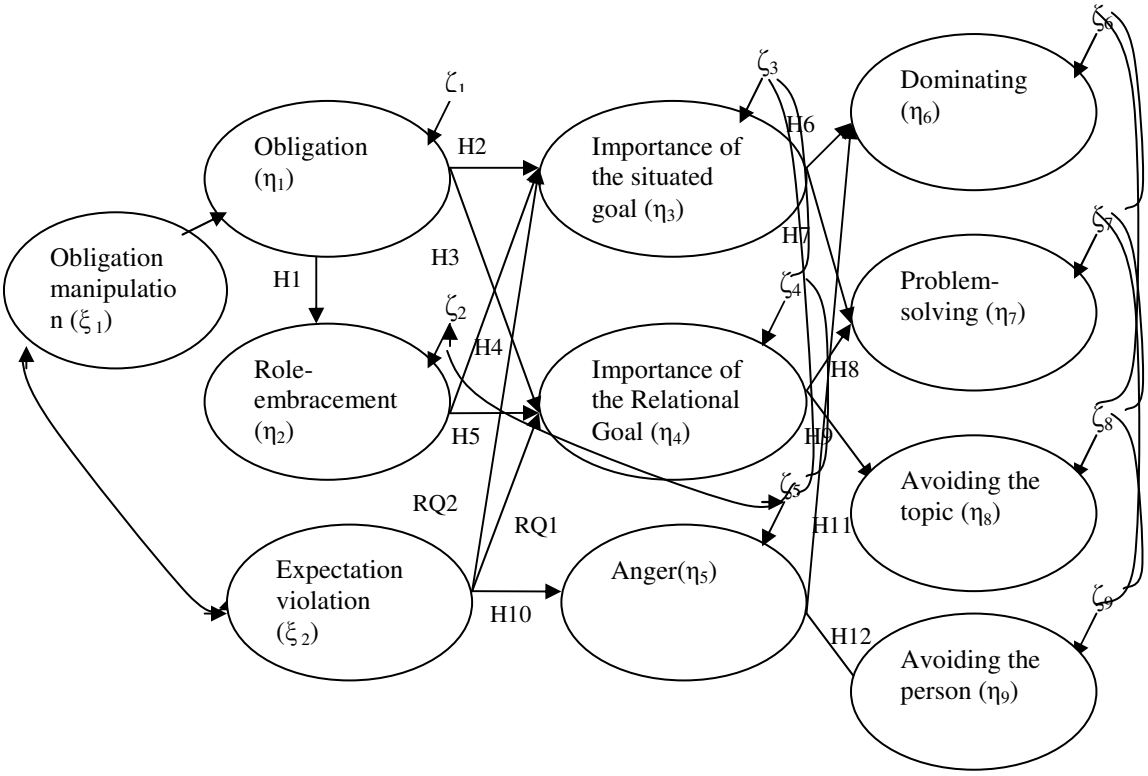


Figure 2. The structural model of the effect of general role obligation and the other's violation of role expectation on conflict strategies fully mediated through situated and relational goals and anger, tested in Pilot Study 1.

Manipulation and the component score of expectation violation that was already mean corrected based on the standardized loadings. Such a coding method helps prevent multicollinearity among the independent variables in the regression analysis. Next, a series of multiple regression analyses were conducted, regressing the dependent variables in the model on obligation, the component score of expectation violation, and the interaction term as independent variables.

The regression yielded a significant interaction of the two independent variables on three of the dependent variables in the model (standardized coefficients were reported): the obligation manipulation check ($F[3, 260] = 16.49$, $p < .001$, $R^2 = .16$; $B = .16$, $SE = .06$, $t = 2.79$, $p < .01$), role embracement ($F[3, 251] = 2.75$, $p < .05$, $R^2 = .03$; $B = .13$, $SE = .06$, $t = 2.03$, $p < .05$), and avoiding the topic ($F[3, 261] = 4.45$, $p < .01$, $R^2 = .05$; $B = .14$, $SE = .06$, $t = 2.26$, $p < .05$). The two independent variables did not interact to affect any other dependent variables.

To interpret these interaction effects, the data were split into two groups based on obligation manipulation: group A (high-obligation manipulation group) and group B (low obligation-manipulation group). The three dependent variables were regressed separately on expectation violation for both groups. For the obligation manipulation check, split group regression analysis showed that expectation violation negatively predicted obligation for the high obligation group ($F[1, 130] = 7.95$, $p < .01$, $R^2 = .06$; $B = -.22$, $SE = .08$, $t = -2.82$, $p < .01$), but had no effect on obligation for the low obligation group. For role embracement, expectation violation positively predicted embracement for the specific role for the low obligation group ($F[1, 125] = 7.30$, $p < .01$, $R^2 = .06$; $B = .25$, $SE = .09$, $t = 2.70$, $p < .01$), but had no effect on role embracement for the high

obligation group. For avoiding-the-topic conflict strategy, expectation violation positively predicted avoiding the topic for the low-obligation manipulation group (F[1, 130] = 14.24, $p <$ .01, R^2 = .10; B = .33, SE = .09, t = 3.77, $p <$ .01), but had no effect on avoiding the topic for the high obligation manipulation group. Because both the obligation manipulation and expectation violation were not hypothesized to directly affect role embracement or avoid the topic strategy, the interaction on these two dependent variables were of less concern in this pilot study and were not included in testing the original model.

The obligation manipulation check, however, was expected to be predicted by the obligation manipulation, therefore, the interaction on the obligation manipulation check was examined to make sure the main effect of the manipulation was interpretable. The component score of expectation violation was recoded into low, moderate, and high categories. The lowest 1/3 of the data was recoded as -1, the middle 1/3 of the data was recoded as 0 and the top 1/3 of the data was recoded as 1. This newly created categorical variable was entered as the independent variable together with the obligation manipulation into an ANOVA to predict the obligation manipulation check. The results showed a significant main effect of the obligation manipulation on the manipulation check (F[1,242] = 27.74, $p <$ .001, partial η^2 = .10). Higher obligation was induced in the high-obligation manipulation condition (M = .33, SD = .08) than in the low-obligation manipulation condition (M = -.30, SD = .09). There was also a main effect for the recoded expectation violation variable (F[2,242] = 6.08, $p <$ .01, partial η^2 = .05). The descriptive statistics suggested a curvilinear trend of the effect: Obligation was lower at the moderate level of expectation violation (M = -.27, SD = .10) than both low

expectation violation (M = .12, SD = .09) and high expectation violation conditions (M = .19, SD = .12).

As expected there was a significant interaction of the obligation manipulation and expectation violation on obligation (F[2, 242] = 3.29, p < .05, partial η^2 = .03). Descriptive statistics suggested an ordinal interaction (i.e., the effect of obligation manipulation on the manipulation check was of the same direction but of different slope) (see Figure 3 for the graph). In other words, across the low, medium, and high levels of expectation violation, participants reported greater obligation in the high obligation manipulation condition (M_{low} = .63, SD = .12; M_{medium} = -.03, SD = .15; M_{high} = .38, SD = .16) than in the low obligation manipulation condition (M_{low} = -.40, SD = .13; M_{medium} = -.52, SD = .13; M_{high} = .01, SD = .19), but the induction became weaker as the level of expectation violation increased. This ordinal interaction pattern indicated that the main effect of the obligation manipulation on the manipulation check was still interpretable. Therefore, because the interaction was not of central interest in testing the model and did not affect the interpretation of the manipulation check, this interaction term was not included in testing the full model.

Model fit indices. The model fit was examined using LISREL 8.80 (Jöreskog & Sörbom, 2006) and maximum likelihood estimation. The following fit indices were generated: χ^2(30, N = 245) = 76.66, p < .01; RSMEA = 0.08, SRMR = 0.08, CFI = 0.92, NNFI = 0.86. According to Hu and Bentler's (1999) joint criteria of SRMR ≤ 0.09 and RMSEA ≤ 0.06, the model fit was moderate, as the RSMEA of 0.08 was a little higher than the cutoff value of 0.06, but the SRMR value was lower than the cutoff value of 0.09. Kline (2005) argued that model χ^2 is sensitive to the size of correlations of the variables

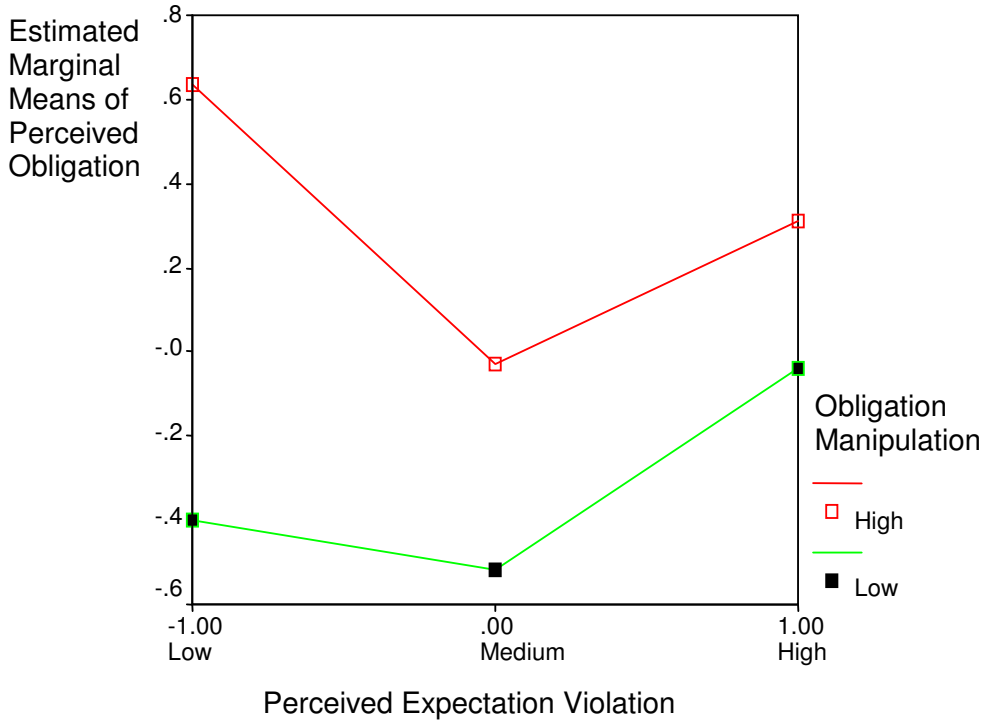


Figure 3. The ordinal interaction of the obligation manipulation and perceived expectation violation on obligation manipulation check.

and to the sample size. For example, when sample size is large, the model χ^2 may result in rejecting the null hypothesis of model fit even if the difference between the observed covariance matrix and the model-implied covariance matrix is small. He discussed normed model χ^2 that takes into consideration sample size by dividing the χ^2 by the degrees of freedom of the model (χ^2/df). Although there is no standard for this statistic, the commonly used cutoff values are 2.0, 3.0 or 5.0 (Bollen, 1989). Models with normed χ^2s smaller than the cutoff value are considered to have reasonable fit. The normed χ^2 of the current model is 76.66/30 = 2.56. Using the cutoff value of 3.0, the model fit was acceptable (see Table 6 for parameter estimates).

Because the effects of role obligation and expectation violation on the conflict strategies were fully mediated in the tested model, a second model was tested with direct links from the obligation manipulation check and expectation violation to the corresponding dependent variables to examine whether anything was left unexplained in addition to the mediating effect. The following fit indices were generated: $\chi^2(24, N = 245) = 51.57$, $p < .01$; RSMEA = .069, SRMR = .065, CFI = .96, NNFI = .91. Therefore, adding the direct links from the independent variables to the corresponding dependent variable significantly improved model fit ($\Delta\chi^2[6, N = 245] = 25.09$, $p < .001$). The model with direct links displayed an acceptable fit to the data based on the joint criteria of SRMR $\leq$ 0.09 and RMSEA $\leq$ 0.06, normed χ^2 smaller than the conservative cutoff value of 3 (normed χ^2 = 51.57/24 = 2.15), and CFI and NNFI > 0.90 (Hu & Bentler, 1995). See Table 7 for the parameter estimates of this second model with direct links from perceived obligation and expectation violation to conflict and Table 8 for the squared multiple correlations for each structural equation.

Table 6

Parameter Estimates of the Original Model with Fully Mediated Effects.

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	ζ
η_1	=	-.35**											.87
η_2	=			.16*									.96
η_3	=		.07	-.14*	.22**								.89
η_4	=		-.13*	.55**	-.03								.65
η_5	=		.54**										.70
η_6	=					.49**		.28**					.64
η_7	=					.00	.33**						.89
η_8	=						.20**						.99
η_9	=							.14*					.95

* $p < .05$, ** $p < .01$.

Note. 1. ξ_1 = obligation manipulation; ξ_2 = expectation violation; η_1 = perceived obligation; η_2 = role embracement; η_3 = importance of the situated goal; η_4 = importance of the relational goal; η_5 = anger; η_6 = the use of dominating conflict strategy; η_7 = the use of problem-solving conflict strategy; η_8 = the use of avoiding-the-topic conflict strategy; η_9 = the use of avoiding-the-person conflict strategy. 2. Numbers of in the last column are error variances for each structural equation.

Preliminary hypothesis testing and research questions. Standardized parameter estimates for the original model were examined to evaluate each hypothesis (see Table 6).

H1 states that perceived obligation to fulfill other's needs and concerns related to the general role negatively affects the level of embracement of the situated role. The parameter estimate of the link from obligation manipulation check to role embracement was significant but in the opposite direction (b = .16, SE = .06, z = 2.55, p < .05), indicating that greater obligation was positively associated with the embracement of the situated role. Therefore, H1 was not supported.

H2 states that perceived obligation related to the general role to fulfill other's needs and concerns negatively affects the perceived importance of situated goals. The parameter estimate from obligation to situated goal importance was significant and in the expected direction (b = -.14, SE = .06, z = -2.37, p < .05). Therefore, greater perceived obligation resulted in less perceived importance of the situated goal in the conflict. H2 was supported.

H3 states that perceived obligation related to the general role to fulfill other's needs and concerns positively affects the perceived importance of relational goals. The parameter estimate of the link from obligation to relational goal was significant and in the expected direction (b = .55, SE = .05, z = 10.75, p < .01), indicating that greater obligation was associated with greater perceived importance of the relational goal. Thus, H3 was supported.

H4 states that level of embracement of the situated role positively affects the perceived importance of situated goals. The parameter estimate of the link from role-embracement to situated goal importance was significant and in the expected direction (b

= .22, *SE* = .06, *z* = 3.51, *p* < .01). Greater embracement of the situated role resulted in an increase in the level of perceived importance of the situated goals. H4 was supported.

H5 states that level of embracement of the situated role negatively affects the perceived importance of relational goals. The parameter estimate of the link from role-embracement to relational goal importance was not significant, indicating that role embracement did not affect perceived importance of relational goal. This hypothesis was not supported.

H6 states that the perceived importance of the situated goal positively affects the use of the dominating strategy. The parameter estimate of the link from situated goal importance to dominating conflict strategy was significant and in the expected direction (*b* = .49, *SE* = .05, *z* = 9.14, *p* < .01). Greater importance of the situated goal resulted in greater reported strength of agreement with the statements indicating the use of dominating strategy (relational-disruptive confronting strategy). H6 was supported.

H7 states that perceived importance of the situated goal positively affects the use of the problem-solving strategy. The parameter estimate of the link from situated goal to problem-solving conflict strategy was not significant. Situated goal importance did not affect the use of this relational-protective and confronting conflict strategy. H7 was not supported.

H8 states that perceived importance of the relational goals positively affects the use of problem-solving strategy. The parameter estimate of the link from relational goal importance to problem-solving strategy was significant and in the expected direction (*b* = .28, *SE* = .05, *z* = 5.35, *p* < .01). Greater perceived importance of relational goal predicted greater reported strength of agreement with the statements

indicating the use of relational-protective confronting conflict strategy. Therefore, H8 was supported.

H9 states that the perceived importance of the relational goals positively affects the use of the avoiding-the-issue strategy. The parameter estimate of the link from relational goal importance to avoiding-the-topic strategy was significant and in the expected direction ($b = .20$, $SE = .06$, $z = 3.14$, $p < .01$), indicating that greater perceived importance of the relational goal resulted in greater reported strength of agreement with the statements indicating the use of avoiding-the-issue strategy. Thus, H9 was supported.

H10 states that the perceived negative violation of role expectation by the other person will result in greater anger. The parameter estimate of the link from expectation violation to anger was significant and in the expected direction ($b = .54$, $SE = .05$, $z = 10.35$, $p < .01$). Greater expectation violation aroused more anger. Therefore, this hypothesis was supported.

H11 states that anger positively affects the use of the dominating strategy. The parameter estimate of the link from anger to dominating strategy was significant and in the expected direction ($b = .28$, $SE = .05$, $z = 5.35$, $p < .01$). More anger caused greater reported strength of agreement with the statements indicating the use of dominating strategy. H11 was supported.

H12 states that anger positively affects the use of avoiding-the-person strategy. The parameter estimate of the link from anger to avoiding-the-person conflict strategy was significant and in the expected direction ($b = .14$, $SE = .06$, $z = 2.34$, $p < .05$), indicating that anger positively predicted reported strength of agreement with the statements indicating the use of avoiding-the-person strategy. H12 was supported.

RQ1 asks whether negative violation of role expectation affects the perceived importance of situation goals. The parameter estimate for the link from expectation violation to situated goal importance was not significant, indicating that the other party's negative violation of role expectation did not affect the focal individual's perceived importance of situated goal.

RQ2 asks whether negative violation of role expectation affects the perceived importance of the relational goal. The parameter estimate of the link from expectation violation to relational goal importance was significant and negative (b = -.13, SE = .05, z = -2.46, $p < .05$), indicating that the more the other party negatively violated role expectation the less the focal individual perceived the importance of relational goal (see Table 7 for all the estimates for model parameters for the original model with fully mediated variables and Table 8 for squared multiple correlations for each structural equation).

Discussion and Summary

This pilot study examined the reliability of the scales to be used in this dissertation. Confirmatory factor analyses (CFA) were conducted to test the one-factor structure for all the measures. Except for the relational-goal-importance scale, the scales had moderate to adequate reliability. Most of the measures were supported as having a one-factor structure by CFA. After allowing two errors to covary in CFA, the relational-goal-importance measure and the anger measure were supported as having one-factor structures. Principal component analyses indicated that only one component with an eigenvalue greater than 1 could be extracted from each scale. The situated-goal-importance model did not fit the one-factor structure. Two items in the

Table 7

Parameter Estimates of the Original Model with Direct Effects

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	ζ
η_1	=	-.35**											.87
η_2	=			.16**									.96
η_3	=		.07	-.14*	.22**								.89
η_4	=		-.13*	.55**	-.03								.65
η_5	=		.54**										.70
η_6	=		.04		-.05	.50**		.27**					.64
η_7	=			.26**	.11	-.03	.17*						.82
η_8	=			.18**			.10						.98
η_9	=		.23**					.01					.89

* $p < .05$, ** $p < .01$

Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation; η_1 = obligation; η_2 = role-embracement; η_3 = importance of the situated goal; η_4 = importance of the relational goal; η_5 = anger; η_6 = the use of dominating conflict strategy; η_7 = the use of problem-solving conflict strategy; η_8 = the use of avoiding-the-topic conflict strategy; η_9 = the use of avoiding-the-person conflict strategy. 2. Numbers of in the last column are error variances for each structural equation.

Table 8

Squared Multiple Correlations for Each Structural Equation of the Original Model with Fully Mediated Effects and the Second Model with Direct Links from the Obligation Manipulation and Perceived Expectation Violation to Conflict Strategies

Dependent Variable	Model 1 (Original Model)	Model 2 (with Direct Links Added)
Perceived obligation	.12	.12
Role embracement	.02	.02
Situated goal importance	.06	.06
Relational goal importance	.32	.32
Anger	.29	.29
The use of dominant strategy	.38	.38
The use of problem-solving strategy	.10	.17
The use of avoiding the topic strategy	.04	.06
The use of avoiding the person strategy	.02	.06

relational-goal-importance scale and two items in the situated-goal-importance scale required reverse coding, and the scales were revised to address the one-factor structure problem.

The theoretical model (i.e., the structural part of the proposed model) was tested to examine model fit. Only one independent variable (level of obligation) was manipulated and the other independent variable (perceived expectation violation) was measured. Model fit indices suggested that the theoretical model had a moderate fit. A second model with direct links from role enactment variables (i.e., the obligation manipulation check and expectation violation) to conflict strategies was tested to account for any direct effects in addition to the mediating effects. This model had a better fit than the original model with model fit indices significantly improved from the original model.

Hypothesis testing based on the original model showed that, as expected, obligation related to the general role negatively influenced the perceived importance of situated goal and positively influenced the perceived importance of the relational goal. In comparison, role embracement for the situated role positively affected the perceived importance of the situated goal. However, embracement of the situated role did not affect the perceived importance of the relational goal as hypothesized. This finding can be explained by schema-goal connection (Collier & Callero, 2005; Wilson, 1995). If the goal can only be generated by its corresponding cognitive schema brought about by role then the relational goal should have no connection with the situated role due to a lack of cognitive correspondence. On the other hand, although the relational goal corresponds to general role-related obligation, obligation serves as a social constraint that prevents the individual from perceiving the importance of the situated goal, which is already created

by the immediate situation. Therefore, greater obligation affected both situated and relational goal importance but with distinct mechanisms: The link between obligation and relational goal importance seems to be due to the role-schema-goal connection but the link between obligation and situated goal seems to be due to the function of social constraint related to role obligation.

Situated goal importance was found to positively affect the use of dominating conflict strategy, but not the problem-solving conflict strategy. One way to explain the lack of influence of situated goal on problem-solving strategy may be that the problem-solving strategy, as reflected in its conceptualization and operationalization, involves compromising behaviors. Individuals sometimes need to give in a little to allow an issue to be resolved. Such compromise may not have been preferred when the perceived importance of the situated goal was high because achieving the individual's goal was of a greater concern than solving the problem, which requires a joint effort by the conflicting parties.

As expected, the importance of the relational goal positively affected the use of the two relational-protective conflict strategies: the problem-solving (confronting) strategy and the avoiding-the-topic strategy. Finally, anger positively affected the use of the two relational-disruptive strategies: the dominating strategy and the avoiding-the-person strategy. Furthermore, expectation violation not only affected the level of anger, it also negatively affected the perceived importance of the relational goal, suggesting that expectation violation influenced conflict strategies through both cognitive and emotional processes.

One finding that was unexpected was the positive effect of perceived obligation on embracement of the situated role, which was in the opposite direction from that which was hypothesized. Greater perceived obligation resulted in greater embracement of the situated role. One explanation for this finding was that when obligation was high and the general role was salient, individuals may have experienced conflict from both the general and the situated role (Goffman, 1961; Gross et al., 1958). This role conflict may have resulted in greater salience of the situated role and therefore increased the level of embracement of the situated role. Nonetheless, the hypothesized mechanism of obligation distracting the focal individual from embracing the situated role was not supported in this pilot study. Instead, perceived obligation decreased the perceived importance of the situated goal that seems to be the result of embracing the situated role. Therefore, the general role-related obligation affected the use of various conflict strategies not through distracting the focal individual from the situated role but through influencing goal priority in the conflict situation.

This pilot study supported the proposed theoretical model with mediated effects from the independent to dependent variables. However, the model fit was significantly improved when direct links from the obligation manipulation check and perceived expectation violation to their corresponding dependent variables were added to the model, indicating that there were still direct effects in addition to these effects through goal importance and anger.

The method of recalling a past conflict experience provided realistic conflict situations to be examined for the proposed model. However, the findings for model testing in this pilot study were preliminary and await replication in the formal study for

three reasons. First, not all of the scales were adequate in reliability and measurement model fit. The reliability of the relational-goal-importance measure was low, and only two items from the situated-goal-importance scale were used to test the model. Second, a variety of extraneous variables were not controlled in the current study. Different conflict situations were recalled by the participants and many factors, such as power difference, the importance of the conflict issue, outcome severity and the duration of the conflict were not examined and were assumed to not vary systematically across conditions. In addition, recalling the conflict experience did not control for the temporal order of the occurrence of model variables, so the interpretation of the causal effects was difficult. For example, recalling the relational goal and the situated goal rather than measuring them before assessing conflict behavior may have reduced the validity of the goal measures. And third, only the theoretical model was tested in the current study. Using component scores as single indicators rather than including the measurement model is a disadvantage because measurement error was not taken into account in the model (Maruyama, 1998). The formal study addresses these limitations by conducting a laboratory experiment with controls for extraneous variables, using improved measures, and testing the full model with the measurement model included.

Pilot Study 2

Purpose

The purpose of this pilot study was to (1) examine the realism and effectiveness of the previously developed conflict induction material, (2) test the effectiveness of the previously developed obligation manipulation for the laboratory experiment, and (3) develop the expectation violation manipulation material for the laboratory experiment.

Phase 1: Examine Wording of Experimental Materials and Realism of the Conflict Induction

Although the experimental paradigm was adapted from a previously pilot tested decision-making task (McGreevy, 1996), the wording and the realism of the experimental material was checked to make sure that that it is effective and realistic. Four undergraduate students (M_{age} = 22.25, *SD* = 1.89, *Mdn* = 21.50, range = 21-25) from a large eastern university were recruited to evaluate the experimental material. All four participants were female. Three were juniors (75%) and 1 was a senior (25%) college student. Participants were three Caucasians (75%) and one Asian American (25%).

Procedure. Participants came to a classroom where they first read and signed the informed consent form. Each participant was given the experimental materials that included the description of the evaluation task, the information about the 4 candidates, the question about ranking individuals, and a set of instructions for manipulating obligation (see Appendix E). They were asked to read the instructions and then evaluate (1) whether the evaluation task sounded realistic, (2) whether the one point of extra credit served the purpose of motivating involvement in the conflict, and (3) whether the candidate information sounded realistic to them as undergraduate students at the same university.

Results. All four participants reported that the description of the evaluation task sounded realistic and believable to them. They pointed out that one extra\-credit point was not a big enough amount to be worth the effort to “fight” with the other but that it was better than offering no extra credit points. They said that one point helped to increase involvement in the evaluation task, which was exactly the primary purpose of using a one

point incentive. For candidate information, three of the participants indicated that the description "**Candidate A** is also active in his church's youth group" may not be appropriate as it is the only description that includes a religious experience. Participants suggested that using "his community's youth group" sounded natural and connected to the following sentences. Therefore, the statement was revised into "Candidate A is also active in his community's youth group." No other issues were raised about the candidate information.

Phase 2: Examine Effectiveness of Obligation Manipulation Check and Develop Expectation Violation Manipulation

Participants. Participants were 16 undergraduate students (M_{age} = 19.88, *SD* = 1.31, *Mdn* = 20.00, range = 18-22) from a large eastern university. There were 6 males (37.5%) and 10 females (62.5%). Four were freshmen (25.0%), five were sophomores (31.3%), three were juniors (18.8%), and four were seniors (25.0%). Nine participants reported their ethnicity as Caucasian (56.3%), three as African American or Black (18.8%), one as Asian American or Asian (6.3%), one being both Latin American and Caucasian (6.3%), and one as both Asian American and other (6.3%). One participant did not provide ethnicity information.

Procedure and questionnaire. All participants first read and signed the informed consent form upon arrival. Next, they were randomly paired to form groups of two and each person was given one of the two versions of the instruction book that included the experimental materials (see Appendix F). The experimenter (the researcher) then made the following announcement:

> Thank you all for coming. I would like to start by introducing the task we are going to accomplish today. The study you are participating in today is a joint task

> between the Department of Communication and the University. The department wants to collect some data and the University has a separate task for all of you. Let me introduce the task from the University first.
>
> There is a Special Academic Program that we've been running for the past five years. What we did was to recruit students to the University of Maryland and each fall semester we give out one award to the student who's considered as being the most possible to be successful in UMCP. This semester (Spring), the faculty committee is finalizing their recommendation for the recipient of the award for the coming fall semester, but the University also wants to obtain input from undergraduate students. This is because in the application packets of the four finalists, there are lots of extracurricular background information. The University believes that undergraduate students may have a better insight in terms of what kind of extra curricular activity predicts successful UMCP students. That's why you are here.
>
> [The experimenter demonstrated each page of the instruction book as the announcement continued.] In this instruction book, you will find the extracurricular information for all the four finalists. The descriptions of information other than extracurricular background were standardized to prevent biases. Please read the information carefully and then on the next page provide a ranking for the four candidates from the most possible to be successful here in UMCP to the least possible to be successful. On the last page of this instruction book is another set of instructions just to get you more involved in the task, please also read them and fill out whatever it asks you to fill out. After you are done with the examine book, you need to fill out a short questionnaire to help the faculty committee understand why certain ranking comes up. Then, you need to discuss your ranking with the other student and come up a ranking that works for both of you
>
> One final thing, to encourage participation and increase the seriousness of the evaluation task, the University wants to implement the following rule. If the ranking you come up with individually is the same as the ranking that two of you come up as a group, you will get 1 more extra credit point, or whatever point that is worth attending a 30 minutes SONY study.

After the participants finished reading and completing the instruction book (i.e., evaluate the candidates, provide individual ranking, and complete the last page regarding obligation for being a friend and a student evaluator), a short questionnaire was given to them that included the revised measure for situated goal and relational goal, the obligation measure and a request for demographic information (see Appendix G). Only

the obligation measure was examined in this pilot study. The instructions for the obligation questionnaire read as follows.

> Sorry for the interruption! The university believes that the thoughts and behaviors involved in the evaluation process provide additional information regarding why certain recommendations are generated. Please take some minutes to answer the following questions regarding your thoughts in the discussion before you proceed. Your answers will be kept anonymous and might be used to evaluate the recommendation you come up with. Thank you!

Magnitude scales were used to measure the variables. Participants were asked to use a non-negative number to indicate their agreement with each statement. A yardstick of 100 was given to indicate a moderate level of agreement.

After finishing the questionnaire, participants were told that the study was over and no group discussion was needed. They were then fully debriefed of the purpose of the study, that the procedure of this pilot study would be the preparation for a full experiment.

Results. Descriptive statistics showed that all the data from the four-item measure of the obligation scale fell within the 95th percentile (two standard deviations from the mean), suggesting that there were no influential outliers. The skewness statistic for the four items was within the range of 0.2 and 2; items 1, 2, and 3 had skewness statistic smaller than 1, but the skewness of item 4 was about 2. The kurtosis value was within the range of -1.5 and 4. The kurtosis was greater than 1 for items 1 and 3, smaller than 1 for item 2 and about 4 for item 4.

Although the data did not seriously deviate from normality based on the standard of absolute value skewness of 3 and kurtosis of 10, data transformation was still conducted to improve the data distribution. The equation $Y^* = Y^{\lambda}$ was used to transform the data generated by the magnitude scales (Bauer & Fink, 1983), where Y is the variable and λ is the power. Y* is the transformed value. A λ of 6 was used for transforming the

scale items. After transformation, the skewness for all the items was within the range of -1 to 1 and the kurtosis was within the range of -2 to 1. The skewness and kurtosis were not significant (see Appendix H for the λs used for transformation and the original and transformed variables' skewness and kurtosis). Levene's test for homoscedasticity in the ANOVA for the obligation manipulation check was not significant.

The reliability of the revised obligation scale was .79. A principal component analysis extracted only one component with an eigenvalue greater than 1 from the scale (eigenvalue = 2.67, 66.74% variance explained) and the loadings for items 1 to 4 were .78, .90, .75, and .83, respectively. The composite score based on the transformed four items was saved to be used in checking the obligation manipulation.

To test the obligation manipulation, a one-way ANOVA was conducted with the obligation manipulation (Version A, i.e., high obligation condition, versus Version B, i.e., low obligation condition, of the instruction book) as the independent variable and perceived obligation as the dependent variable. The ANOVA had a significant main effect for the obligation manipulation ($F[1, 14] = 11.78$, $p < .01$, partial $\eta^2 = .46$). The high obligation version induced greater obligation ($M = 8.45$, $SD = 0.57$) than the low obligation version ($M = -0.51$, $SD = 0.85$). Therefore, the obligation manipulation was successful and could be used in the main study.

Phase 3: Develop Expectation Violation Manipulation

To generate a series of behaviors to be used by confederates in the main study that could violate the focal individual's (i.e., the potential participants) role expectations, specific role expectations for both the role of friend and the role of student evaluator were examined. The last page of the instruction book was the obligation manipulation, in

which participants wrote down obligations friends have for each other (in the high obligation condition) and obligations a judge has for the evaluation task (in the low obligation condition). Because role obligation reflects individuals' expectation for the person who enacts that role (Gordon, 1972), the information regarding obligations was used to develop indicators of role expectations.

First, all the entries provided by the participants regarding obligation for the friend role (i.e., the general role) and the student evaluator role (i.e., the situated role) were categorized by the researcher. Appendix I lists the description and frequency of all the categories from the coded entries for obligation of the friend role. Appendix J lists the description and frequency of all the categories from the coded entries for obligation of the judge role.

To achieve an approximately equivalent level of expectation violation across the different levels of obligation, an equal number of obligations for each role were used to develop instructions for expectation violation. The four obligations listed most frequently for the friend's role were mutual care, support and sacrifice; honest; nice and courteous; and listen. The four most frequently listed obligations for the student evaluator's role were open-minded and not biased to particular activities; fair; persuasive and not arbitrary; and stick to the standard. Because the attribute of being honest could be difficult to reflect in specific verbal and nonverbal behaviors in the immediate situation, the next frequently mentioned category of "mutual respect, being respectful" was used instead of honesty. Based on these categories, a list of behaviors that were opposite of the eight kinds of expectations was developed. See Table 9 for a description of the categories and behaviors.

Recruiting confederates. Five confederates were recruited (M_{age} = 21.80, *SD* = 1.92, *Mdn* = 21.00, range = 20-25). All were females. There were 4 juniors (75%) and 1 senior (25%). Four reported their ethnicity as Caucasian (80%) and one as Asian American (20%). The confederates were recruited from the Department of Communication at a large eastern university. All five students had taken research method class and therefore had a basic knowledge about experimental research in communication. The confederates were recruited as research assistants and earned three credits of independent study under the supervision of the researcher of this study. All confederates were blind to the purpose of the research study and the study's hypotheses.

Training confederates. Three training sessions were held for the confederates to become familiar with the process and requirements of the experiment. First, they needed to come to the study as an ordinary participant and would be paired with a participant to discuss the candidates. They would then receive one of the two versions of the instruction book. In one version, the last page of the book asked them to treat the other party as a friend.

In the other version, the last page asked them to take on the role of a student evaluator only. They would follow the same study procedure as the other participant, except that the researcher would help the confederate make the opposite ranking of the candidates of that done by the participant during the time when individual rankings were recorded by the researcher. After receiving the rankings the confederate needed to discuss the rankings to try to reach an agreement with the participant.

If the friend version was used, the confederate needed to keep in mind the following instructions:

Table 9

Categories Selected for Developing the Expectation Violation Manipulation and Behavioral Guidelines for the Confederates.

Role	Top four expectations	Expectation violation behaviors
Friend	1. Give mutual care, support, and sacrifices	1. Do not show support – avoid nodding or saying "yes" or using other supportive terms
	2. Be nice and courteous	2. Do not being nice or courteous – display few smiles and use colder tones
	3. Listen	3. Do listen patiently – keep interrupting
	4. Be respectful	4. Do not be respectful – show condescending attitudes
Student evaluator	1. Be open-minded and not biased to particular activities	5. Do not be open-minded – show bias to certain activities and disagree some of the other's standard, and not compromise
	2. Be fair	6. Be arbitrary and do not be persuasive – use bad arguments or groundless arguments
	3. Be persuasive and do not be arbitrary	7. Do not be fair – apply different standards to different applicants
	4. Stick to the standard	8. Do not stick to the standard – promote negative attributes and disregard positive attributes

> Please treat the discussion as a discussion with your friend. It doesn't mean that you need to be extra nice or agree with whatever the other says, however. Remember that you are still in a conflict situation. Keep the discussion natural, but bear in mind that the two of you are friends. After the discussion starts, please see the other person as your friend.

If the student evaluator version was used, the confederate needed to enact the eight expectation violation behaviors listed in Table 9. They were given the list of behavior instructions and needed to keep in mind the following points:

> On the last page of an ordinary instruction book for the student evaluator role, there is a box of four blanks where participants need to fill out their view regarding the obligation of a student evaluator. In this box of your instruction book, however, the blanks have already been filled in with the following eight behaviors. Please do remember to incorporate the eight behavior requirements, both verbally and nonverbally, into your discussion with the other person.

The confederates were first given a couple of days to become familiar with the experimental material, procedure, and behavior requirements. Then a conflict simulation was conducted in which the confederates were paired with each other to practice the behavior protocol with each other. Each of them practiced both the friend's role behavior and the student evaluator role (i.e., expectation violation behaviors) twice. Each time only one couple practiced and the rest of the confederates and the researcher observed. After each practice, the researcher commented on the confederates' performance. In the practice, the confederates found it difficult to fully carry out all the eight expectation violation behavior requirements in the discussion. Specifically, their attitude was easily influenced by the attitude of the other (i.e., they tended to be nicer to the other party who smiled a lot even in the expectation violation condition). Most of them were hesitant to pretend to not be willing to listen and to interrupt the other party. Moreover, even though they carried out the requirements verbally, their nonverbal cues usually failed to meet the requirement (e.g., not to smile or to avoid nodding one's head frequently). These issues

were pointed out by the researcher and the confederates were assured that the participants would be thoroughly debriefed about the nature of the study and their identity as confederates. The confederates' performance improved with several turns of practice.

Finally, the confederates practiced with actual participants. Twenty participants were recruited during a four day period in which the experimental procedure was followed and the confederates experienced the whole experimental process except for the final questionnaire phase and practiced both the friend role and expectation violation role. Because the confederates needed more practice of the expectation violation behaviors, they were assigned to the student evaluator role in four out of five practice opportunities. During this process, their performance was observed by the researcher. Individual differences in expectation-violation behaviors among the five confederates were observed (e.g., some confederates were nicer than others). The confederates whose expectation-violation behaviors were much nicer or meaner than the rest of the confederates were asked to adjust their behavior to achieve greater reliability in the confederates' performance.

By the end of the training and practice sessions, the confederates indicated that they were comfortable to carry out both low expectation-violation behaviors (i.e., the friend role) and the high expectation-violation behaviors. The researcher also considered the confederates to be ready for the experiment based on their performance in the practice sessions.

Summary

This pilot study tested the effectiveness of the obligation manipulation, developed the expectation violation manipulation based on the pilot data, and created the process

used of recruiting and training confederates. Study results showed that the obligation manipulation successfully induced different levels of obligation. Based on the information regarding obligation for the friend and student evaluator role, a list of eight expectation violation behaviors that were expected to violate expectations for both the friend role and the student evaluator role was developed. Five confederates were recruited and trained to perform the eight expectation-violation behaviors in the experiment for the high expectation-violation condition as well as appropriate behaviors for the low expectation-violation condition. They also practiced with actual participants to become familiar with the complete experimental procedure. Confederates' reliability in performance and the effectiveness of expectation violation manipulation were tested in Pilot Study 3.

Pilot Study 3

Purpose

The purpose of this study was to examine the effectiveness of the expectation violation manipulation, the reliability of confederates' performance, the effectiveness of the conflict induction and the study procedure, and the reliability of the updated measurement model based on findings from Pilot Study 1.

Participants

Participants were 32 undergraduate students (M_{age} = 19.48, *SD* = 1.21, *Mdn* = 19.00, range = 18-22) recruited from the same university as the participants in Pilot Studies 1 and 2. Each participant signed up for the study through an on-line participant pool system and obtained a small amount of course extra credit for attending the study. Ten participants were male (31.3%) and 21 were female (65.6%). There were 10

freshmen (31.3%), 9 sophomores (28.1%), 9 juniors (28.1%) and 3 seniors (9.4%). Fifteen participants reported their ethnicity as Caucasian (46.9%), 6 as African Americans (18.8), 2 as Asian Americans (6.3%), 1 as Latin American (3.1%), and 3 as Central Asian or Indian American (9.4%). Two participants reported both Latin American and African American as their ethnicity, and 1 as both Asian and Caucasian. One participant reported "other." One participant did not respond to the questions about demographic information.

Procedure and Questionnaire

This pilot study was conducted in two laboratory rooms in which the main experiment would be held. The two rooms were right next to each other. One room had two tables, each with two chairs. The other room had two couches and one table between the couches. Two to three participants were recruited for each time slot. The same number of confederates was scheduled to the time slot to create pairs.

The confederates came to the study and sat with the participants while waiting for the study to begin. Upon arrival, the confederates would let the researcher know if any of the participants were an acquaintance of hers to be sure that confederates were not paired with someone who knew them. The procedure at the beginning of the experiment was the same as in Pilot Study 2. Participants, including the confederates, read and signed the consent form upon arrival. The participants were paired with the confederates. The experimenter then gave instructions to the pairs together. Then, pairs were separated to the two rooms with one pair in each room if only two pairs were available and two pairs in the larger room if three pairs were available.

After participants and confederates read the instruction book, where they read the candidate information, wrote down their individual ranking for the candidates and read and completed the last page for the obligation manipulation, they were given a short questionnaire to complete. This questionnaire was the same as in Pilot Study 2 in which the updated situated goal, updated relational goal and perceived obligation (manipulation check) measures were given. During this process, the experimenter came to the lab and asked the participants, "Do you mind if I copy down your individual rankings while you are filling out the questionnaire?" Then the experimenter took the actual participant's instruction book and copied down the ranking and then tore off the last page that had the obligation manipulation. Next, the experimenter took the confederate's instruction book and, while pretending to copy down the ranking, changed the ranking to be the opposite of the participant's. The last page of the instruction book for the confederates was also torn off. Tearing off the last page was to prevent the participants from discovering the different information across versions on the last page during their discussion.

After the short questionnaire was completed, the pairs were told to start their discussion. The pairs were not informed of a time limit for the discussion. However, when the discussion did not finish at the 15th minute, the experimenter told the participants that "due to the time constraint that we are expecting further student evaluators to come in, I will give you one more minute to wrap up your discussion." After agreements were reached or when the participants indicated that they could not reach agreement, they were told that their task for the university regarding the evaluation was over, but the Department of Communication would like to take the opportunity to collect some data for future research use. The actual participant was then given the final

questionnaire and the confederate was told that "We have another set of questions for you but we would like you to complete them in a separate room. Could you please follow me?" Then the confederates were led out of the lab area and to prepare for the next time slot. After the questionnaire was completed, participants were thoroughly debriefed about the experiment face to face by the researcher. The participants were told the following:

> Thank you for participating in this study. I would like to let you know the true nature of the study. We were interested in studying how individuals handle conflict in a disagreement situation. The evaluation task you've just completed was actually created for us to understand this topic. The Special Academic Program does not exist in the University of Maryland. We invented this so that we can obtain natural responses from the participants. Although your ranking is not going anywhere, we really appreciate your input and participation. The information you've provided were very important for us to understand conflict behaviors. So thank you very much! You discussion partner was a research assistant of this study. She acted as a participant to help us understand how people with different characteristics handle conflict. To be fair for all the participants, you can get that 1 more extra credit point regardless of your discussion result.

Participants in the high expectation-violation condition were further asked whether they felt all right after the discussion. Then the following explanation was added:

> Your discussion partner was told to be really stubborn and uncompromising during the discussion. We hope that the discussion process did not upset you. Are you feeling all right? Also, please do not hold any hard feelings for the research assistant. She was doing her job. Thank you for your understanding!

All the participants showed understanding for the confederates' behavior. After the debriefing, participants were dismissed.

The questionnaire given after the discussion was completed included the following: (1) one question measuring perceived level of disagreement (i.e., "To what extent did your proposed rankings disagree with that of your discussion?), (2) one question measuring level of perceived conflict (i.e., "How conflictual were your ideas and those of your discussion partner during the discussion?"), (3) two questions about

conflict importance (i.e. “How important was the issue in conflict to you?” and “how important was the outcome of the discussion to you?”), (4) two questions about conflict severity (i.e., “How severe was the conflict?” and “How severe was the outcome of your disagreement to you?”), (5) four sets of conflict strategy measures (i.e., 4 items of the avoiding-the-topic scale, 4 items of the problem-solving scale, 4 items of the avoiding-the-person scale, and 4 items of the dominating scale), (6) another two sets of questions, one including the 4-item updated situated-goal scale and the other the 4-item updated relational-goal scale, (7) 4 items of the updated role-embracement for the situated-role scale, (8) 4 items of the updated expectation violation scale, (9) a set of questions measuring role perception and perceived constraint to be used in future research, (10) an empty box with four spaces asking participants to list the things that upset them during the discussion (the question reads: “what things did your discussion partner do or not do during the whole discussion, if any [especially when you were handling your disagreements], that upset you?”), (11) 4 questions measuring anger, (12) 1 item measuring perceived importance of the one extra-credit point, (13) 1 item measuring level of suspicion of the task, and (14) questions requesting demographic information (Appendix K).

The revised scales for the experiment. The revised scales for situated-goal importance and relational-goal importance were first administered before the discussion started and were measured again in the final questionnaire. Measuring goal importance after the discussion was intended to provide a sense of the overall goal recall by the participants to help detect the possible effects of the discussion process on perceived goal importance.

In addition, the role-embracement scale and the expectation-violation scale were revised from those in Pilot Study 1 for the current experimental design. Because the current experiment focused on only one situated role (i.e., student evaluator) as opposed to various different kinds of roles in Pilot Study 1, the four items of the role-embracement scale were revised to the following: (1) I have input much effort into the discussion as a student evaluator, (2) I was fully engaged in my role as a student evaluator in this evaluation task, (3) I was fully attentive to the evaluation task, and (4) nothing distracted me from being a student evaluator in this task.

Because the expectation violation was induced by the confederate's behaviors that were expected to violate the focal individual's expectations for both the friend role and the student evaluator role, one more item was added to the original expectation-violation scale: "The other person's behavior in the discussion was not what an individual would do typically as an objective judge/evaluator." The item would be combined with the third item, "The other person's behavior in the discussion was not what an individual would do typically as a friend," to form one indicator of expectation violation. The mean of the two item scores based on transformed data would be taken to represent the score for the combined item.

Data preparation. Data entry was checked against the original questionnaire responses and 1 error was found and corrected. One mistake during the procedure caused one pair to have the same rankings for the candidates, which resulted in no perceived conflict during the discussion. Participants completed the questionnaire but reported that most of the conflict-related questions did not seem to be relevant and reported "0" for all

these questions. This case was removed from the data set and was not included in the data analysis.

Four out of 32 cases had a total of 24 missing values. Examining the pattern of missing data showed that 19 of the missing values were in one case (i.e., the participant left the rest of the questionnaire blank after completing the first set of the obligation questions). This case was then removed from data analysis because no data were provided for any of the analyses of interest in the current pilot study. The remaining 5 missing values were spread across four cases with no observable pattern. Because ANOVA would be conducted in this pilot study, pairwise deletion was adopted to deal with the random missing values.

Descriptive statistics were reviewed for the measures of expectation violation, situated goal importance, relational goal importance, role embracement, perceived disagreement and perceived conflict. Skewness values varied from 0 to 2.58 for the 19 items. Seven items had skewness statistics between 1 and 2. Four items had skewness values greater than 2. Kurtosis varied from -1.3 to 7.6. Nine items had kurtosis greater than 2. To improve the data toward normal distribution, all scores were transformed. Because the item scores were generated by magnitude scales that are unbounded at the upper end and were positively skewed, the following power function recommended by Bauer and Fink (1983) was used: $Y^* = Y^{\lambda}$. After transformation, skewness values for all the computed items were within the range of -1 to 1, and kurtosis within the range of -1.8 to 2.13 (see Appendix L for the skewness and kurtosis for the original and the transformed items, and the λ value for all the transformed items). These statistics

improved normality of the data distribution and are below the cutoff value for evaluating univariate normality (Kline, 2005).

Scale reliability and testing of the one factor structure. To examine the expectation-violation scale, the transformed items 3 and 4 were averaged to form one indicator, which resulted in a 4-item scale for expectation violation (items 1, 2, 5, and the combined item based on items 3 and 4). The revised 4-item scale had adequate reliability ($\alpha = .94$). A CFA with maximum likelihood was conducted and yielded the following model fit indices: $\chi^2(2, N = 31) = 5.89$, $p = .053$; RSMEA = .25; NNFI = .87; SRMR = .04; CFI = .96 (see Table 11). Principal component analysis extracted only one component with an eigenvalue greater than 1 (eigenvalue = 3.15, 78.85% of variance explained; see Table 12). The component score was saved for use in further analyses. The above statistics showed that this revised scale is reliable and the one factor structure was supported based on multiple indices (see Table 10 for a comparison of the reliability of the original and revised scales).

The role-embracement scale was also reliable ($\alpha = .89$). A CFA testing the one-factor structure yielded the following model fit indices: $\chi^2(2, N = 30) = 5.03$, $p = .095$; RSMEA = .22; NNFI = .90; SRMR = .04; CFI = .97. Principal component analysis extracted only one component with an eigenvalue greater than 1 (eigenvalue = 2.68; 66.92% of variance explained). The component score was saved for use in further analyses. Based on the above statistics, the revised role-embracement scale was reliable and was consistent with the one-factor structure based on multiple model fit indices.

The revised situated goal importance scale was highly reliable ($\alpha = .93$). The model fit indices from a confirmatory factor analysis indicated strong support for one

factor structure: $\chi^2(2, N = 32) = 1.40$, $p = .50$; RSMEA = .00; NNFI = 1.02; SRMR = .02; CFI = 1.00. Principal component analysis showed the eigenvalue for the first and only one component extracted as 3.10, explaining 77.46% of the total variance. The component score was saved for use in further analyses. Based on the above statistics, the revised situated goal importance scale was reliable and was consistent with the one factor structure based on multiple model fit indices.

The revised scale for relational goal was reliable ($\alpha = .88$). Model fit indices from the CFA indicated strong support for the one factor structure: $\chi^2(2, N = 30) = .56$, $p = .76$; RSMEA = .00; NNFI = 1.05; SRMR = .02; CFI = 1.00. The principal component analysis showed the eigenvalue value for the one fact extracted as 2.72, explaining 68.02% of the total variance. The component score was saved. See Table 10 for the reliability information for the revised scales and Table 11 for the component loadings and model fit indices for the CFAs.

Results. To examine the effectiveness of the expectation-violation manipulation and the reliability of the confederates' performance in inducing expectation violation, an ANOVA was conducted with expectation violation manipulation and confederate (coded from 0 to 4 for the five confederates) as the independent-variables and the expectation violation manipulation check as the dependent variable. In addition, because both the friend role and the student evaluator role were the focus in the high-obligation condition whereas only the student evaluator role was the focus in the low-obligation condition, the high-obligation condition may have induced more expectations and thus greater expectation violation. To examine whether the potential confound variable of level of expectation across the two obligation conditions had an effect on expectation violation,

Table 10

Reliability of the Scales Before and After Revision in Pilot Studies 1 and 3.

Variable	Pilot Study 1			Pilot Study 3		
	Valid *N*	Reliability (Cronbach's α)	Number of Items	Valid *N*	Reliability (Cronbach's α)	Number of Items
Role-embracement	255	.82	4	31	.89	4
Expectation violation	265	.89	4	30	.94	4
Situated goal importance	265	.74	4	32	.93	4
Relational goal Importance	263	.60	4	30	.88	4

Table 11

Fix Indices from CFA for the Revised Measurement Models in Pilot Study 3;

Standardized and Unstandardized Factor Loadings for Indicators.

Factors and the Corresponding Indicators	Loadings
Role-embracement	
I have input much effort into the discussion as a student evaluator.	.73* (1.00)
I was fully engaged in my role as a student evaluator in this task	.85* (1.16)
I was fully attentive to the evaluation task.	.88* (1.11)
Nothing distracted me from being a student evaluator in this task.	.80* (1.06)
$\chi^2(2, N = 30) = 5.03$, $p = .095$; RSMEA = .22; NNFI = .90; SRMR = .04; CFI = .97.	
Expectation violation	
I did not expect the other person to behave like this (in a negative sense).	.83* (1.00)
The other person's ways of handling the conflict surprised me negatively.	.99* (1.18)
The other person's behavior in the conflict situation was not what an individual would do typically as a friend and a student evaluator.	.78* (.80)
This person's behavior during the conflict negatively violated my expectation for him/her.	.94* (1.13)
$\chi^2(2, N = 31) = 5.89$, $p = .053$; RSMEA = .25; NNFI = .87; SRMR = .04; CFI = .96.	
Situated goal	
It is important to me to convince this person to do what I wanted him or her to do.	.89* (1.00)
I am very concerned about getting what I wanted in this conflict situation.	.92* (.96)
I care very much about whether I can get what I desire in this situation.	.94* (.97)
It is really important for me to get what I want in this discussion.	.75* (.76)
$\chi^2(2, N = 32) = 1.40$, $p = .50$; RSMEA = .00; NNFI = 1.02; SRMR = .02; CFI =1.00.	
Relational goal	
I was not willing to risk possible damage to the relationship to get what I wanted.	.65* (1.00)
It is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this situation.	.77* (1.10)
I didn't really care if I'd make the other mad or not (reverse coded).	.94* (1.19)
I need to be careful not making the other person mad.	.91* (1.01)
$\chi^2(2, N = 30) = 0.56$, $p = .76$; RSMEA = .00; NNFI = 1.05; SRMR = .02; CFI = 1.00.	

* $p < .05$.

Note. The loadings in the parenthesis are unstandardized loadings. The parameter estimate for the unstandardized loading of the first item of each scale was fixed to 1 for that item to be a reference indicator.

Table 12

Eigenvalues of the First Extracted Component from the Principal Component Analysis for Each Revised Measure Based on the Transformed Data in Pilot Study 3 and Variance Explained by Each Component

Factors and the Corresponding Indicators	Eigenvalue	% of variance explained
Role-embracement	2.68	66.92%
New Role-embracement 1		
New Role-embracement 2		
New Role-embracement 3		
New Role-embracement 4		
Expectation violation	3.15	78.85%
Expectation violation 1		
Expectation violation 2		
New Expectation violation 3		
Expectation violation 4		
Situated goal	3.10	77.46%
Situated goal 1		
Situated goal 2		
Situated goal 3		
Situated goal 4		
Relational goal	2.72	68.02%
Relational goal 1		
Relational goal 2		
Relational goal 3		
Relational goal 4		

the obligation manipulation was added to the ANOVA as a third independent variable. Further, because all five confederates were female, a portion of the data was based on mixed gender discussion pairs (i.e., when participants were males). To examine whether participants reacted differently to confederates' expectation violation behaviors when the other party was of the same gender or different gender, the equality of the couple's gender (same versus different) was also entered as an independent variable. Both the main effects of the independent variables and the interaction effects among these four independent variables were examined.

The ANOVA showed that the expectation-violation manipulation had an main effect on the expectation-violation manipulation check ($F[1, 12] = 9.85$, $p = .009$, partial $\eta^2 = .45$). Participants reported greater expectation violation in the high-expectation violation manipulation condition ($M = .68$, $SD = 1.02$) than in the low-expectation violation manipulation condition ($M = -.55$, $SD = .51$). Therefore, the expectation-violation manipulation was effective. None of the other independent variables had a main effect on the expectation-violation manipulation check, nor did they interact to affect the expectation-violation manipulation check. Therefore, the obligation manipulation did not result in different levels of expectation violation. The confederates' expectation-violation behavior did not induce different levels of perceived expectation violation in participants in the mixed-gender pairs than those in the same-gender condition. Finally, the confederates did not differ on the expectation-violation manipulation, suggesting that the five confederates induced equivalent amounts of expectation violation in the participants.

Finally, to check if the situation created in the experiment was perceived as a conflict situation, descriptive statistics for the original (untransformed) item of perceived

disagreement and perceived level of conflict suggested that on average, moderate levels of conflict were perceived by the participants ($M_{\text{disagreement}}$ = 133.61, $Mdn_{\text{disagreement}}$ = 100; M_{conflict} = 127.42, Mdn_{conflict} = 100), as the yard stick for a moderate level of disagreement or conflict was 100 for the two measures.

Summary of Pilot Study 3

Pilot Study 3 examined (1) the effectiveness of the expectation violation manipulation, (2) the reliability of the revised situated goal, relational goal, expectation violation and role-embracement scales, (3) the performance equivalence of the confederates in inducing expectation violation, (4) the effectiveness of the conflict induction of the study material and procedure, and (5) the potential interaction of the independent variables and some extraneous variables on the expectation-violation manipulation check. The results showed that the current expectation-violation manipulation successfully induced different levels of expectation violation. The revised scales were reliable and had a one-factor structure. The performance of the five confederates did not differ in terms of inducing expectation violation. The experimental situation was considered by the participants as moderately conflictual. In addition, the gender equivalent in the pairs and the obligation manipulation did not affect perceptions of expectation violation, nor did they interact with expectation violation manipulation to affect perceptions of expectation violation.

Summary of the Pilot Studies

Three pilot studies were conducted to examine the effectiveness of the manipulations, the reliability of the measures, the effectiveness of the study design, and the realism of the experimental materials. In Pilot Study 1, participants recalled a past

conflict and provided their responses to the conflict for the purpose of examining the reliability and testing the one-factor structure of the scales for all the measured variables in the model: the obligation manipulation check, expectation-violation manipulation check, perceived importance of the situated goal, perceived importance of the relational goal, role embracement of the situated role, anger, likelihood of using the dominating conflict strategy, likelihood of using the problem-solving strategy, likelihood of using the avoiding-the-person strategy, and likelihood of using the avoiding-the-issue strategy. Most of the measures had moderate to high reliability and had one-factor structures as evaluated by confirmatory factor analysis. The situated goal and relational goal scales, however, had low reliabilities. Further, the one-factor structure was not supported by CFA for the situated-goal importance scale. Examining the scale questions showed that reverse coding questions in both of the goal scales might have caused low reliability and unsatisfactory model fit indices when testing the one-factor structure. These questions were therefore reworded to avoid reverse coding.

The method, the comparatively satisfactory measurement model and the appropriate number of participants allowed a preliminary testing of the proposed model using the recall data, examining only the theoretical model with composite scores of all the measured variables. Results showed that the theoretical model based on recall data only had a moderate fit. A second model with direct links from the manipulation checks to conflict strategies significantly improved model fit, suggesting that there were direct effects of obligation and expectation violation on conflict strategies in addition to the mediated effects of perceived goal importance and anger. Nonetheless, the potential effects of the uncontrolled extraneous variables in the recall data and the disadvantages of

not including the measurement model in the analysis suggested that this result needed to be interpreted with caution and that the model needed further examination based on more rigorous experimental design and analysis as will be conducted in the main study.

Pilot Study 2 examined the realism of the conflict induction material and the effectiveness of the obligation manipulation, and developed the expectation-violation manipulation for the lab experiment. The original wording of the conflict induction was revised to be more realistic and believable based on the comments and suggestions of the participants. The results showed that the obligation manipulation was effective. Greater perceived obligation to fulfill other's needs and concerns was reported in the high-obligation condition than in the low-obligation condition. Based on the expectation for friends and for student evaluators provided by the participants during the experiment, four categories of obligations were developed for the friend role and the role of a student evaluator. A list of eight expectation violation behaviors was created that provides a not-to-do list based on the eight expectation categories. Five confederates were recruited and trained to have discussions with participants and act either normally or violate the other's expectation by enacting the eight expectation violation behaviors.

In Pilot Study 3, the complete experimental procedure to be used in the main study was adopted, and the confederates who were involved in the study followed the same protocol for behaviors to be used in the main study. Results showed that the experimental materials and procedure elicited perceived conflict with the other party. The confederates' behaviors in the high expectation-violation condition induced higher levels of expectation violation than in the low-expectation violation condition, and the five confederates' induced equivalent perceptions of expectation violations in the

participants. The revised scales (i.e., situated goal importance, relational goal importance, expectation violation manipulation, and role embracement) were reliable and had one-factor structures. Whether the discussion pairs were of the same gender or not and whether there was a difference in levels of expectation for the other party did not affect perceptions of expectation violation, nor did they interact with confederates' behaviors to affect perceived expectation violation.

Main Study

Data collection for the main study was conducted in May 2008, right after Pilot Study 3 was finished. Because the main study and the pilot study 3 involved the same experimental procedure and were conducted in the same laboratory rooms with a very short time period (i.e., one weekend) between the two studies, the two sets of data were both examined in the final data analysis. Possible effects due to the two studies were investigated before combining the data.

The next section provides an overview of the data analysis strategies, rationale for sample size, a review of the experimental design, a description of the independent and dependent variables, and a description of the experiment procedures.

Overview of Analysis Strategies

Data were analyzed using two methods: analysis of variance (ANOVA), multivariate analysis of variance (MANOVA), stepwise regression, and structural equation modeling (SEM).

First, the main effect of potential confounding variables and their interactions with the two manipulations (i.e., obligation and expectation violation) were examined using an ANOVA before the combined data of Pilot Study 3 and the main study were

used to test hypotheses. These effects were examined for whether they needed to be included as confounding extraneous variables and interaction terms in the model. Descriptive statistics for perceived level of conflict and the importance of the one-extra-credit incentive were then obtained to examine if conflict was successfully induced.

Next, structural equation modeling was used to test model-data fit for the proposed model, using maximum likelihood estimation. The hypothesized relationships among the variables were evaluated based on the parameter estimates for each corresponding model link provided in the SEM analysis. The two independent variables in the model were the obligation manipulation and expectation-violation manipulation. These two independent variables in the model were linked to and only to the two corresponding manipulation checks (i.e., perceived obligation and perceived expectation violation). The two categorical variables of manipulations were coded as -1 (low obligation or low expectation violation) and +1 (high obligation or high expectation violation) to achieve an orthogonal coding system, in which all the codes add up to zero for each variable, to avoid potential multicollinearity should an interaction term of the two manipulations need to be examined and added to the analyses.

Two models were first examined to test the hypotheses and investigate the research questions. The first model (model 1, see Figure 4 for the theoretical model; see Appendix N for the full model including the measurement models for each variables.) was the original model with the effect of the independent variables (i.e., perceived obligation and perceived expectation violation) on the outcome variables (i.e., the likelihood of using the four conflict strategies) fully mediated by the mediating variables (i.e., role embracement, perceived importance of goals, and anger). This model included all the hypothesized

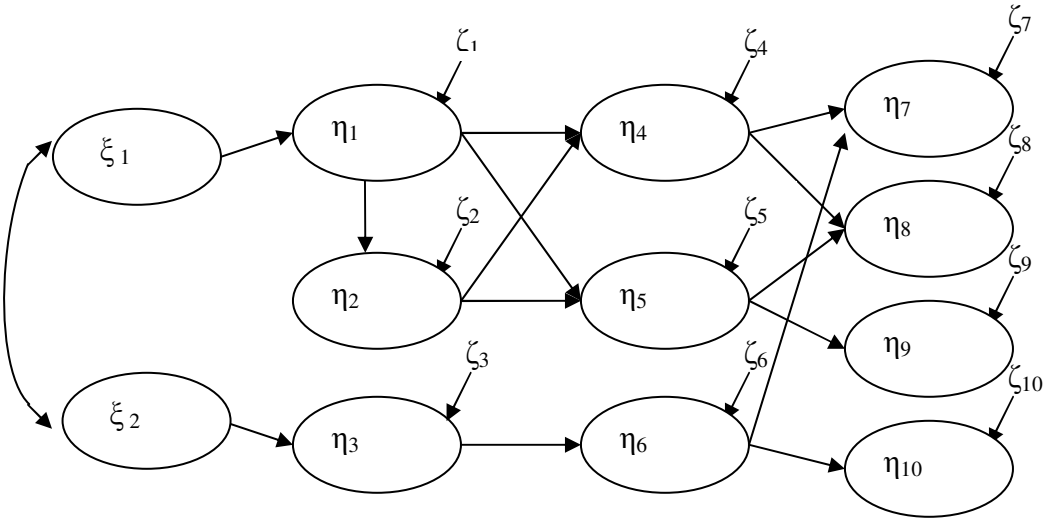


Figure 4. The structural model of the effect of general role obligation and the other's violation of role expectation on conflict strategies fully mediated through situated- and relational-goal importance and anger (model 1). ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

links and only these links. For this model, the perceived importance of situated and relational goals was measured before the discussion started. This procedure is traditional for measuring goal variables but it did not allow the investigation of research questions that required an examination of goal importance as a result of the interaction between the two parties.

For the second model (model 2), the goals were measured after the discussion through recall to represent a tentative measure for the overall goal importance. This method of measuring goals was assumed to take into account the effect of the interaction of the conflict parties on goal importance and to allow the investigation of the effect of the other party's expectation violation on the focal individual's perceived goal importance. This model included two more links than the original model: (1) the link from the expectation violation manipulation check to situated-goal importance, and (2) the link from the expectation violation manipulation check to relational-goal importance.

The reason for testing the hypotheses and investigating the research question in two separate models that involve different ways of measuring goal importance was because the measure for overall goal importance may have questionable validity and reliability as it measures goals retrospectively. The model fit and hypotheses testing of model 2 needs to be cross-validated by assessing model fit and parameter estimates of model 1 in which pre-discussion goal measures were used. Therefore, model 1 was necessary both for testing the hypotheses and for comparing results between the two models. If the results of hypotheses testing in model 2 replicated those in model 1 then stronger support would be obtained for the model and the hypotheses.

Next, two alternative models with direct links from perceived obligation, role embracement, and perceived expectation violation to the outcome variables based on model 1 and model 2 were tested to examine the effects left unexplained by the mediating effects.

Finally, a series of MANOVA and Regressions were conducted to examine whether there were differences in the perceived level of conflict and in the participants' suspicion of the task across experimental conditions, and whether these differences provided potential alternative explanations for the results of the current study.

Sample Size

The sample size for the current study was determined using the standards that address issues of satisfactory model convergence, accuracy of parameter estimation, and statistical power. Although determining sample size based on the number of people per variable or per parameter to be estimated (e.g., 5 people per parameter) has been a commonly used recommendation in structural equation modeling research (Bentler & Chou, 1987; Jackson, 2001; MacCallum, Widaman, Zhang, & Hong, 1999), recent findings have suggested that large sample size requirements based on such recommendation may not be necessary when the quality of the measurement model is high (Gagné & Hancock, 2006; Marsh, Hau, Balla, & Grayson, 1998). Marsh et al.'s (1998) Monte Carlo simulation showed that the sample size needed for proper model convergence decreases as the number of indicators per factor increases (*p/f*). Parameter estimation reaches the maximum accuracy when $p/f = 4$, holding the sample size constant. Gagné and Hancock (2006) extended Marsh et al.'s work by examining model convergence and the accuracy of parameter estimation as a function of loading magnitude,

sample size, and the number of indicators per factor. They used the coefficient *H* proposed by Hancock and Mueller (2001) to operationalize model quality:

$$H = \frac{\sum_{i=1}^{k} \frac{a_i^2}{1 - a_i^2}}{1 + \sum_{i=1}^{k} \frac{a_i^2}{1 - a_i^2}},$$

where *k* is the number of indicators and a_i is the standardized factor loading of each indicator. The *H* refers to construct reliability that is based on both loading magnitudes and the number of indicators (Gagné & Hancock, 2006). Based on their analysis, Gagné and Hancock proposed a general recommendation both for factors with homogeneous loadings and those with heterogeneous loadings. According to these researchers, for example, to achieve satisfactory model convergence for 4-indicator factors with an *H* of .797, 100 people are needed. However, 200 people are needed for the same model if *H* is .776; 400 are needed with an *H* of .707. In addition, Gagné and Hancock also showed that greater construct reliability led to less bias in parameter estimation.

The *H* for all the measurement models examined in the pilot study was calculated. The *H* values for the ten measured variables varied from .843 to .984, suggesting very high quality of the latent-variable measurement models. Based on Gagné and Hancock's (2006) recommendation, the minimum sample size is 50 with such construct reliability in order to obtain satisfactory model convergence.

Hancock (2006) argued, however, that this standard based on loading magnitude and the number of indicators failed to address statistical power. A consequence of this failure is that using a small sample to test a large model will result in inadequate statistical power even though the sample size allows for satisfactory model convergence

and low bias in parameter estimation. Hancock proposed to use the RMSEA model-fit index as a basis to conduct an *a priori* power analysis for data-model fit to obtain information regarding the appropriate sample size needed. Because, an RMSEA smaller than .05 suggests a rejection of the null hypothesis of unacceptable data-model fit, a value of RMSEA from .00 to .04 needs to be pre-selected in computation of sample size for an acceptable model. The RMSEA of .00 to .02 was selected as a reasonable evaluation for model fit of the current model. Based on Hancock's recommendation, for an RMSEA from .00 to .02, the sample size needed to achieve the conventional standard of power of .80 for the proposed model with the theoretical model degrees of freedom of 49 (Table 13) is between 240 and 320. Therefore, the sample size proposed for the current study is from 240 to 320. This sample size should yield satisfactory model convergence, low bias in parameter estimate, and adequate statistical power.

Participants

Participants were 261 (including the 32 participants from pilot study three) undergraduate students in a large eastern university (*M*age = 19.82, *SD* = 1.88, *Mdn* = 20, range = 18-39). Four participants did not provide demographic information. Among the rest of the participants, there were 101 males (38.7%) and 156 females (59.8%). There were 82 freshmen (31.4%), 80 sophomores (30.7%), 56 juniors (21.5%), and 39 seniors (14.9%). Among participants who checked only one category for their ethnic background, 158 (60.5%) reported their ethnicity as Caucasian, 30 as African American (11.5%), 27 as Asian American or Asian (10.3%), 9 as Hispanic or Latin American (3.4%), 10 as central Asian (3.8%), 3 as Arab or Arab American (1.1%), and 1 as American Indian (0.4%). One participant (0.4%) reported "Other." The rest of the participants reported

Table 13

Structural Equations of the Model to be Tested; Parameters to be Estimated (Main Study)

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	η_{10}	ζ
η_1	=	γ_{11}												ζ_1
η_2	=		γ_{22}	β_{21}										ζ_2
η_3	=													ζ_3
η_4	=			β_{41}	β_{42}	β_{43}								ζ_4
η_5	=			β_{51}	β_{52}	β_{53}								ζ_5
η_6	=					β_{63}								ζ_6
η_7	=						β_{74}		β_{75}					ζ_7
η_8	=						β_{84}	β_{85}						ζ_8
η_9	=							β_{95}						ζ_9
η_{10}	=								β_{105}					ζ_{10}

Note. There are a total of 29 free parameters to be estimated: 14 free parameters in the $\underline{B}$ matrix, 2 free parameters in the $\underline{\Gamma}$ matrix, 3 free parameters in the $\underline{\Phi}$ matrix (the independent variables were allowed to covary), and 10 free parameters in the $\underline{\Psi}$ matrix (10 error variances). Therefore, the degrees of freedom of this model is *df* = (12X13)/2 – 29 = 49. 2. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

multiple ethnic identities. Six participants (2.3%) reported their ethnicity as both Hispanic and Caucasian, 3 as both Asian and Caucasian (1.1%), 1 as both Black and Caucasian (0.4%), 1 as both Asian and Black (0.4%), and 1 as both Caucasian and "Other" (0.4%). The other 3 participants (1.2%) checked three ethnic categories including Caucasian and two other ethnicities.

Manipulations and Variables

Manipulations. In this 2 X 2 independent sample experimental design, the two independent variables, obligation and expectation violation, were manipulated using the materials and procedures developed in the Pilot Studies 2 and 3. Obligation was manipulated by providing an instruction sheet that asked the participants to either take on the role of a friend with the other party or to not be distracted by any roles other than the role as a student judge (Table 14). The instructions were provided on the last page of the instruction book. Participants read the instructions for the discussion after they came up with their individual rankings for the candidates and before they started the discussion with their partner (i.e., the confederate). Expectation violation was manipulated by having the confederates assigned either to be friendly (low expectation-violation condition) or to conduct behaviors (Table 9) that were designed to violation their discussion partner's (the participant) expectation (high expectation-violation condition).

Manipulation checks and dependent variables. The manipulation checks for both independent variables and all the dependent variables used the corresponding 4-item scales developed and pre-tested for reliability in the pilot studies. The measure for obligation-manipulation check, anger, the likelihood of using dominating strategy, problem-solving strategy, avoid-the-issue strategy and avoid-the-person strategy were

Table 14

Obligation Manipulation – High Versus Low Obligation Instructions

High Obligation Manipulation	Low Obligation Manipulation
You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your discussion partner, please note: To keep the group discussion as natural as possible, please consider your discussion partner as your **FRIEND**. That is, you are discussing the candidates with your **FRIEND**. In the discussion, although you and your friend might have different opinions, please keep in mind that she or he is your friend. Being a friend involves fulfilling your friend's needs and concerns the best you can and keeping the relationship with your friend good and solid. To help you take this perspective more naturally, please write down what obligations friends have for each other:	*You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your discussion partner, please note:* To keep the group discussion as effective as possible, please keep in mind that although you and your discussion partner might have met before, your concern for the other party's needs should not interfere with your evaluation. For you, the concern for fulfilling the needs of the other party should not be mixed with the requirements of the task at hand. To help you take this perspective more naturally, please write down what obligations a student judge has for this evaluation task:
1. 2. 3. **4.**	*1.* 2. 3. **4.**
Thank you for your answers! Now, you can start your discussion with your discussion partner and come up with a ranking that both of you agree upon.	Thank you for your answers! Now, you can start your discussion with your discussion partner and come up with a ranking that both of you agree upon.

pre-tested in Pilot Study 1. The measure for situated-goal importance, relational-goal importance, expectation-violation manipulation check, and role embracement were updated versions revised based on the results in Pilot Study 1 and re-tested in Pilot Study 3. Magnitude scales were used for all the items. Participants were asked to use any non-negative number to represent their agreement with each statement. They were told to use "100" represent a moderate level of agreement.

Procedure and Questionnaire

The experimental procedure and questionnaires used in the main study were the same as those used in Pilot Study 3. The procedure is summarized as follows: Participants came to one of the two laboratory rooms and were paired with another student, who was a confederate, for a decision-making task. Upon arrival, the confederates would let the researcher know if any of the participants were an acquaintance to be sure that confederates were not paired with someone who knew them. Each participant was given an instruction book that included (1) a description of the task to evaluate and rank four finalists for a scholarship program in the university they were enrolled in, (2) the extracurricular background information of the four finalists, (3) an instruction to provide individual rankings for the candidates, and (4) the instruction that induced high versus low levels of obligation. Next, all the participants and the confederates completed a short questionnaire that included (1) a 4-item measure for the importance of the situated goal, (2) a 4-item measure of the importance of the relational goal, and (3) a 4-item measure for the obligation manipulation check. While the participants were completing this questionnaire, the experimenter came in to copy each pair's individual rankings and changed the ranking in the confederate's instruction book

to be the opposite of the participant's without the participant's notice. After the pair finished the questionnaire, they began to discuss their rankings and views to come up with a group ranking. Upon receiving the instruction book at the beginning of the study, the confederates were given the instruction to be either friendly or to engage in the eight expectation-violation behaviors. All the participants were randomly assigned to one of the four experimental conditions (i.e., high obligation and high expectation violation; high obligation and low expectation violation; low obligation and high expectation violation; and low obligation and low expectation violation).

After the discussion, the confederate was led out of the lab and the participant was given the final questionnaire that included (1) six questions measuring level of perceived disagreement, level of perceived conflict, issue importance, outcome importance, the severity of the conflict, and the severity of the outcome, (2) measures assessing the use of the four conflict strategies (i.e., avoiding-the-topic, problem-solving, avoiding-the-person, and dominating), (3) the updated situated-goal importance scale and the updated relational-goal importance scale, (4) the updated role embracement for the situated-role scale, (5) the updated expectation-violation scale, (6) a set of questions measuring role perception and perceived constraint to be used in future research, (7) a box with four blanks for listing the things that may have upset the participant during the discussion, (8) the anger scale, (9) an item measuring the perceived importance of the one extra-credit point, (10) an item measuring level of suspicion about the task, and (11) questions regarding demographic information (See Appendix F for the experimental instructions and Appendix M for the pre-discussion and post-discussion questionnaire used in the main study).

After completing the questionnaire, participants were debriefed and then dismissed.

CHAPTER IV

Results

Data Entry Check

Data entry after Pilot Study 3 was checked against the original responses in each questionnaire. Out of a total of 229 participants from the main study data collection and 82 variables examined, 33 data entry mistakes were found. The error rate of data entry is thus 33/(229*82) = .0018. All data entry errors were corrected.

One discussion pair was in a no conflict situation because the confederate was mistakenly given the exact same rankings as the participant. The participant did not complete the final questionnaire measuring responses to conflict. This case was removed and was not included in the data analysis.

Missing Data

Because data collected in Pilot Study 3 and the main study were to be combined in the analysis, the missing data pattern was examined in the combined data file from both data collections. Out of 261 cases, 31 cases had a total of 85 missing values. The missing values seemed to be spread randomly across the 31 cases. Among the 31 cases, 19 cases involved missing values in demographic information or in the measured variables that were not planned to be used in the data analysis for the current study.

As discussed earlier, both listwise and pairwise deletion could be used for non-systematic missing data (Kline, 2005). Because pairwise deletion is a disadvantage for conducting structural equation modeling because different number of cases are involved in computing the covariance matrix (see Pilot Study 1 for a detailed discussion), listwise deletion was used for the structural equation modeling. Listwise deletion was also used

for another multivariate analysis (MANOVA) and pairwise deletion was used for the ANOVA and regression used in this study.

Data Trimming and Transformation

Descriptive statistics were obtained to examine whether statistical assumptions were met for the univariate (ANOVA and regression) and multivariate analyses (SEM and MANOVA). Because problems in multivariate normality may be detected by examining univariate normality for each variable (Kline, 2005), the relative normality of each indicator's distribution were examined for SEM analysis and MANOVA as well as for ANOVA and regression.

Skewness and kurtosis were used to evaluate whether the population assumption of normal distribution is plausible for each dependent variable in the model (including the manipulation check for obligation and for expectation violation). As in Pilot Study 1, the standard cutoff value of 3 for skewness and 10 for kurtosis, as proposed by Kline (2005), was used to evaluate deviations from normality. Among the 45 items examined (4 indicators for each of the 10 measured variables plus 5 items for perceived level of conflict and disagreement), 35 items had skewness values greater than 3 and 37 items had kurtosis greater than 10, indicating a serious deviation from normality (see Appendix O). Large values of skewness and kurtosis for most of the variables also indicated the existence of influential outliers. Therefore, data trimming and transformation were needed to achieve normality (Bauer & Fink, 1983; Kline, 2005).

Data trimming in this study refers to recoding the values of the extreme cases or influential outliers to lower values. Therefore, although different percentages of the data points would be recoded based on different trimming methods, none of the data points in

were dropped at this stage. As in Pilot Study 1, two trimming methods were considered: (1) trimming the data based on the strict definition of outlier (i.e., numbers greater than two standard deviation away from then mean, or above the 95th percentile), or (2) trimming data down to the top fifth extreme value, at about the 98th percentile. To make sure that influential outliers were trimmed affecting the fewest number of data points, both trimming methods were used and compared. The method that yielded absolutely smaller skewness and kurtosis values after transformation was used.

First, each measured item was trimmed to the 95th percentile and down to the fifth highest extreme value, in separate data files. Because items measured by magnitude scales are typically positively skewed (Bauer & Fink, 1983), each item was transformed using the following power function adopted from Bauer and Fink (1983):

$$Y^* = Y^{\lambda},$$

where Y^* is the transformed variable, Y is the original variable, and λ is the power value ($\lambda \neq 0$). After transformation, the skewness and kurtosis for all the items for both trimming method were below the cutoff value of deviation from normality (see Appendix P for the λ used for transformation and the descriptives of each item for both trimming methods). The skewness for all the items was within the range of -1 to 1 for both trimming methods except for one variable, which had a skewness of 1.54 and 1.53 from the 95th and 98th percentile trimming methods, respectively. The kurtosis values for all the items in both trimming methods were within the range of -2 to 3. Overall, data with the 98th percentile method used yielded lower absolute values for skewness and kurtosis after transformation ($M_{\text{skewness95\%}} = 0.30$, $M_{\text{skewness98\%}} = 0.22$, $M_{\text{kurtosis95\%}} = 1.10$, $M_{\text{kurtosis98\%}}$

= 1.04; see Appendix P). Therefore, the transformed data based on 98th percentile trimming method was used for further data analysis.

Reliability and Confirmatory Factor Analysis

Reliability. All the measures had high reliability, with Cronbach's α varying from .80 to .94 (see Table 15), except for the scale of perceived importance of relational goal measured after discussion in the final questionnaire (α = .74), which had a moderately acceptable reliability.

Confirmatory factor analysis. A CFA with maximum likelihood estimation was conducted in LISREL 8.80 (Jöreskog & Sörbom, 2006) to test the one-factor structure for the measurement models. A covariance matrix was used in the analysis. Consistent with the pilot studies, Hu and Bentler's (1999) criteria for model fit was used in this study to evaluate data-model fit: (1) NNFI, CFI ≥ .96 and SRMR ≤ .09, or (2) SRMR ≤ .09 and RMSEA ≤ .06). The χ^2 statistic, degrees of the freedom, and the *p* value for χ^2 were also obtained. Table 16 lists the fit indices for each measurement model and the standardized and unstandardized factor loadings for each indicator. In addition, the *H* value for construct reliability (Hancock & Mueller, 2001) was computed for each scale to represent model quality.

As can be seen in Table 16, except for the scale for role embracement, the fit indices of all other measurement models indicated support for a one-factor-structure and the *H* value for construct reliability suggested high quality for the measurement models, with all *H* values greater than the cutoff value of .776 for a sample size of 261 (Gagné & Hancock, 2006). The role-embracement model fit indices failed to meet either of the joint criteria set by Hu and Bentler (1999), with the RSMEA statistic higher than the cutoff

Table 15

Scale Reliability for All the Measures Based on the Transformed Data

Variable	Valid *N*	Reliability (Cronbach's α)	Number of Items
Obligation to fulfill others' needs and concerns	256	.84	4
Role-embracement for the specific role	259	.90	4
Expectation violation	261	.90	4
Situated goal importance	259	.93	4
Situated goal recall (measured after discussion)	261	.92	
Relational goal importance	254	.81	4
Relational goal recall (measured after discussion)	261	.74	
Anger	261	.94	4
Dominant conflict strategy (confronting and relational-disruptive strategy)	261	.80	4
Problem solving conflict strategy (confronting and relational-protective strategy)	256	.82	4
Avoid the topic conflict strategy (avoiding and relational-protective strategy)	261	.88	4
Avoid the person conflict strategy (avoiding and relational-disruptive strategy)	258	.83	4

Table 16

Fix Indices from the Confirmatory Factor Analysis for the Measurement Models; Standardized and Unstandardized Factor Loading for Indicators

Factors and the Corresponding Indicators	Loadings
Obligation	
I feel obligated to fulfill the needs and concerns of this person	.64** (1.00)
I feel obligated to maintain a good relationship with this person	.88** (1.44)
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	.69** (1.06)
I feel that I should always keep in mind that this person is my friend (or ally) in all situations.	.81** (1.47)
$\chi^2(2, N = 255) = 5.32$, $p = .07$; RMSEA = .08; SRMR = .02; NNFI = .98; CFI = 99	
Role-embracement	
I have input much effort into the discussion as a student evaluator.	**.85** (1.00)**
I was fully engaged in my role as a student evaluator in this evaluation task.	.82** (.87)
I was fully attentive to the evaluation task.	.83** (.90)
Nothing distracted me from being a student evaluator in this task.	.80** (.88)
$\chi^2(2, N = 256) = 33.95$, $p < .01$; RSMEA = .25; NNFI = .87; SRMR = .04; CFI = .96.	
Expectation violation	
I did not expect the other person to behave like this (in a negative sense).	**.82** (1.00)**
The other person's ways of dealing with the conflict surprised me negatively.	.89** (1.03)
The other person's behavior in the conflict situation was not what an individual would do typically as a friend and a student evaluator.	.81** (.86)
This person's behavior during the conflict negatively violated my expectation for him/her.	.84** (.95)
$\chi^2(2, N = 258) = 16.47$, $p < .01$; RSMEA = .17; NNFI = .95; SRMR = .02; CFI = .98.	
Situated goal (measured before discussion) [Situated goal measured after discussion]	
It is important to me to convince this person to do what I wanted him or her to do.	**.91** (1.00) [.89** (1.00)]**

Table 16 (Continued)

Factors and the Corresponding Indicators	Loadings
I am very concerned about getting what I wanted in this conflict situation.	.93** (1.01) [.94** (1.03)]
I care very much about whether I can get what I desire in this situation.	.93* (.97) [.95** (1.04)]
It is really important for me to get what I want in this discussion.	.74* (.75) [.67** (.81)]
$\chi^2(2, N = 257) = 1.62, p = .44$; RSMEA = .00; NNFI = 1.00; SRMR = .01; CFI = 1.00. [$\chi^2(2, N = 258) = 5.01, p = .08$; RSMEA = .08; NNFI = .99; SRMR = .01; CFI = 1.00.]	
Relational goal (measured before discussion) [Relational goal measured after discussion]	
I was not willing to risk possible damage to the relationship to get what I wanted.	**.55* (1.00) [.46* (1.00)]**
It is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this situation.	.76** (1.33) [.77** (1.50)]
I didn't really care if I'd make the other mad or not (reverse coded).	.87** (1.27) [.91** (1.72)]
I need to be careful not making the other person mad.	.72** (1.02) [.52* (1.01)]
$\chi^2(2, N = 252) = 4.12, p = .13$; RSMEA = .06; NNFI = .98; SRMR = .02; CFI = .99. [$\chi^2(2, N = 258) = .69, p = .71$; RSMEA = .00; NNFI = 1.01; SRMR = .009; CFI = 1.00.]	
Anger	
To what extent did these behaviors you listed above upset you?	**.88** (1.00)**
what extent did these behaviors you listed above make you angry?	.83** (.86)
To what extent did these behaviors you listed above make you feel annoyed?	.93** (1.08)
To what extent did these behaviors you listed above make you feel irritated?	.91** (1.03)
$\chi^2(2, N = 258) = 10.11, p < .01$; RSMEA = .12; NNFI = .98; SRMR = .02; CFI = .99.	
Dominant conflict strategy	
I argued insistently for my stance	**.84** (1.00)**
I asserted my opinion forcefully	.76** (.83)
I insisted my position be accepted during the conflict	.57** (.60)
I stood firm in my views during the conflict	.55** (.76)
$\chi^2(2, N = 255) = 2.45, p = .29$; RSMEA = .03; NNFI = 1.00; SRMR = .02; CFI = 1.00.	

Table 16 (Continued)

Factors and the Corresponding Indicators	Loadings
Problem-solving conflict strategy	
I went fifty-fifty to reach a settlement	**.72** (1.00)**
I gave in a little on my ideas when the other person also gave in	.70* (.84)
I offered tradeoffs to reach solutions for the disagreement	.79** (1.12)
I blended my ideas with the other party to create new alternatives for resolving a conflict	.71** (.97)
$\chi^2(2, N = 253) = 5.99$, $p = .05$; RSMEA = .09,; NNFI = .97; SRMR = .02; CFI = .99.	
Avoiding the topic conflict strategy	
I shied away from topics that are sources of disputes.	**.78** (1.00)**
I kept quiet about my views in order to avoid disagreements	.83** (1.03)
I steered clear of disagreeable situations	.82** (1.06)
I held my tongue rather than argued	.79** (1.02)
$\chi^2(2, N = 258) = 7.69$, $p = .02$; RSMEA = .10; NNFI = .97; SRMR = .02; CFI = .99.	
Avoiding the person conflict strategy	
I avoided eye contact with this person after the disagreement occurred.	**.73** (1.00)**
I tried not to talk to this person during the task	.77** (1.08)
I refused to deal with this person about this disagreement.	.76** (.91)
I talked to other person regarding the issue rather than dealing directly with the person I disagreed with.	.72* (.99)
$\chi^2(2, N = 258) = .23$, $p = .89$; RSMEA = .00; NNFI = 1.01; SRMR = .00; CFI = 1.00.	

*$p < .05$, **$p < .01$.

Note. The loadings in the parentheses are unstandardized loadings. The parameter estimate for the unstandardized loading of the first item of each scale was fixed to 1 for that item to be a reference indicator.

value of .06 (RSMEA = .25), and NNFI statistic lower than the cutoff value of to .96 (NNFI = .87). However, the other two model-fit indices met the criteria for good model fit (e.g., SRMR = .04, and CFI = .96). The model fit indices suggested that the model needs to be revised to fit better to the data. Questions in the scale may need to be re-examined and changed. However, the *H* value for the role-embracement model was .896, indicating adequate model quality for a sample size of 261 according to Gagné and Hancock (2006). Given such high model quality and the concern with keeping all four items of the scale to reduce bias in parameter estimation, all four items were retained.

Principal Component Scores for Variables

Unrotated principal component analyses were conducted for the 10 measurement models to obtain components for each scale. The cutoff eigenvalue was set at 1 for extracting components. Results showed that only the first extracted component of each scale had an eigenvalue greater than 1 (see Table 17). Therefore, composite scores for the first component in each measurement model were used in all preliminary analyses using ANOVA (i.e., examining the effectiveness of manipulations, investigating the effects of extraneous variables), and post-hoc analyses using MANOVA and regression. The component score was preferred to means or sums because it is a linear combination of all the indicators that takes into account the weighted contribution of the indicators.

When testing the proposed model and the alternative models to examine the hypotheses and research questions, however, both the measurement model and the theoretical model were included in the SEM analyses. Including the measurement model allows measurement error to be accounted for in the model, which is an advantage over using single indicators for the latent variables (e.g., mean or composite scores) in SEM

Table 17

Eigenvalues of the First Extracted Component (the Only Component with an Eigenvalue Greater than 1) from the Principal Component Analysis Based on the Transformed Data, and the Variance Explained by Each Component

Components and the Corresponding Indicators	Eigenvalue	% of variance explained
Obligation	2.70	67.54%
Obligation 1		
Obligation 2		
Obligation 3		
Obligation 4		
Role-embracement	3.05	76.35%
Role-embracement 1		
Role-embracement 2		
Role-embracement 3		
Role-embracement 4		
Expectation violation	3.12	77.94%
Expectation violation 1		
Expectation violation 2		
Expectation violation 3		
Expectation violation 4		
Situated goal	3.32	83.02%
Situated goal 1	3.23*	80.83%*
Situated goal 2		
Situated goal 3		
Situated goal 4		
Relational goal	2.58	64.47%
Relational goal 1	2.32*	58.06%*
Relational goal 2		
Relational goal 3		
Relational goal 4		
Anger	3.36	84.03%
Anger 1		
Anger 2		
Anger 3		
Anger 4		
Dominant strategy	2.51	62.72%
Dominant strategy 1		
Dominant strategy 2		
Dominant strategy 3		
Dominant strategy 4		

*Goals that were measured after the discussion.

Table 17 (continued)

Components and the Corresponding Indicators	Eigenvalue above 1	% of variance explained
Problem-solving strategy	2.61	65.24%
Problem-solving 1		
Problem-solving 2		
Problem-solving 3		
Problem-solving 4		
Avoid the topic strategy	2.94	73.53%
Avoid the topic 1		
Avoid the topic 2		
Avoid the topic 3		
Avoid the topic 4		
Avoid the person strategy	2.66	66.61%
Avoid the person 1		
Avoid the person 2		
Avoid the person 3		
Avoid the person 4		

analysis (Maruyama, 1998).

Preliminary Analyses

Data merging and the effects of extraneous variables. A series of ANOVAs were conducted with the following categorical variables as the independent variables: (1) obligation manipulation (high vs. low), (2) expectation violation manipulation (high vs. low), (3) the sequence of the data collection process (pilot vs. main study data collection), (4) the level of equivalence of the gender of the discussion pairs (mixed vs. same gender pairs), and (5) the kind of confederates (referring to individual differences among the 5 confederates). Each of the 10 measured variables (i.e., two manipulation checks, role embracement, situated and relational goal importance, anger, and four conflict strategies) were the dependent variables. This set of analyses was conducted for the following reasons. First, the difference in the dependent variables due to the sequence of the data collection process of Pilot Study 3 and the main study needed to be examined to see whether merging the data from Pilot Study 3 and the main study was feasible. Second, the reliability of the confederates' performance needed to be examined to see whether any difference in the dependent variable was due to a lack of equivalence in the confederates' behaviors. Third, because all the confederates were female, the difference in participants' conflict strategies due to interacting with opponents of different gender versus same gender needed to be tested. Therefore, these three variables were entered into an ANOVA with the two independent variables of the model (obligation and expectation-violation manipulation). The main effect of these three variables and their interactions with the two manipulations and among themselves (i.e., all possible interactions) were examined. In addition, the interaction of the two manipulations on all

the dependent variables in the model was examined. Any significant main effect of the three extraneous variables (i.e., the sequence of the study, gender equivalence, and the kind of confederates) or their interaction with any of the two manipulations needed to be evaluated to determine whether they should be included in the final model.

Results of the ten ANOVAs with all five independent variable and their interactions mentioned above showed that the obligation manipulation and expectation violation manipulation did not interact to affect any of the 10 dependent variables in the model. In addition, the sequence of the studies (i.e., Pilot Study 3 vs. main study) did not have a main effect on any of the 10 dependent variables and did not interact with either of the two manipulations.

A couple of effects were found for the level of gender equivalence of the pairs. Gender equivalence (i.e., same- vs. mixed-gender discussion pairs) had a main effect on the use of the problem-solving strategy ($F[1, 188] = 6.39$, $p < .05$, partial $\eta^2 = .03$). Participants in the same-gender pairs reported greater agreement with the statements that indicated their use of a problem solving strategy ($M = .14$, $SD = .97$) than those in the mixed-gender pairs did ($M = -.19$, $SD = .98$).

The gender equivalence of the pairs also interacted with the obligation manipulation to affect the obligation manipulation check (perceived obligation), $F(1, 190) = 6.64$, $p < .05$, partial $\eta^2 = .03$. The obligation manipulation induced an increase in the level of perceived obligation in participants in the same-gender pairs ($M_{\text{lo.ob.}} = -.27$, $SD = .89$; $M_{\text{hi.ob.}} = .57$, $SD = 1.03$) than those in mixed-gender pairs ($M_{\text{lo.ob.}} = -.03$, $SD = .85$; $M_{\text{hi.ob.}} = .08$, $SD = .73$). These results suggested an ordinal interaction (Figure 5): the obligation manipulation worked for participants in both same-gender and mixed-gender

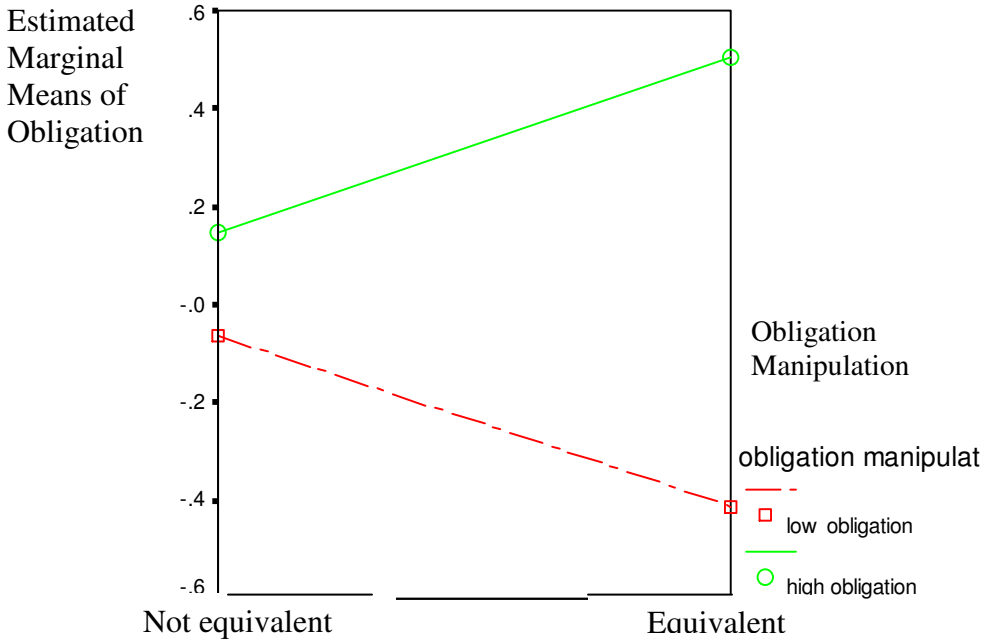


Figure 5. The interaction of obligation manipulation and gender equivalence of the pairs on the obligation manipulation check.

pairs, but it worked to a greater extent participants in the same-gender pairs. Such an ordinal interaction should not affect the interpretation of the main effect of the obligation manipulation. Moreover, the interaction had a very small partial η^2 (.03), suggesting an almost negligible contribution in explaining the variance in the dependent variable. Therefore, this interaction was not included in the model.

The result of the full ANOVA design with relational goal recall as the dependent variable showed that the gender equivalence of the pairs also interacted with the expectation violation manipulation to affect relational-goal importance measured after the participants finished their discussion, $F(1, 192) = 4.00$, $p < .05$, partial $\eta^2 = .02$. As can been seen in Table 18, participants in both the same-gender pairs and mixed-gender pairs reported lower importance of the relational goal after they interacted with opponents who violated their expectations. However, the decrease in relational goal importance in the high expectation-violation condition as compared to the low expectation-violation condition was greater for participants in the mixed-gender pairs than in the same-gender pairs. This interaction was ordinal (Figure 6) and should not influence the interpretation of the main effect of expectation manipulation on recall of goal importance. Moreover, this interaction explained very little variance in the dependent variable as reflected in a partial η^2 of .02. Therefore, this interaction was not included in the model.

This ANOVA also yielded a three-way interaction of the expectation-violation manipulation with the sequence of the studies and the gender equivalence of the pairs to affect relational goal recall, $F(1, 192) = 3.98$, $p < .05$, partial $\eta^2 = .02$. As seen in Figure 7, this interaction would not influence the interpretation of the main effect of expectation violation manipulation on the recall of relational goal because in both studies, the

Table 18

Means and Standard Deviations of Relational Goal Importance (Measured After the Discussion) from an ANOVA with Expectation Violation Manipulation and Gender Equivalence as Independent Variables.

Level of Gender Equivalence of the Pairs							
Participants in the Same-Gender Pairs				Participants in the Opposite-Gender Pairs			
High EV		Low EV		High EV		Low EV	
M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
.01	1.02	.16	.91	-.20	1.05	.19	.97

Note. EV = Expectation Violation Manipulation.

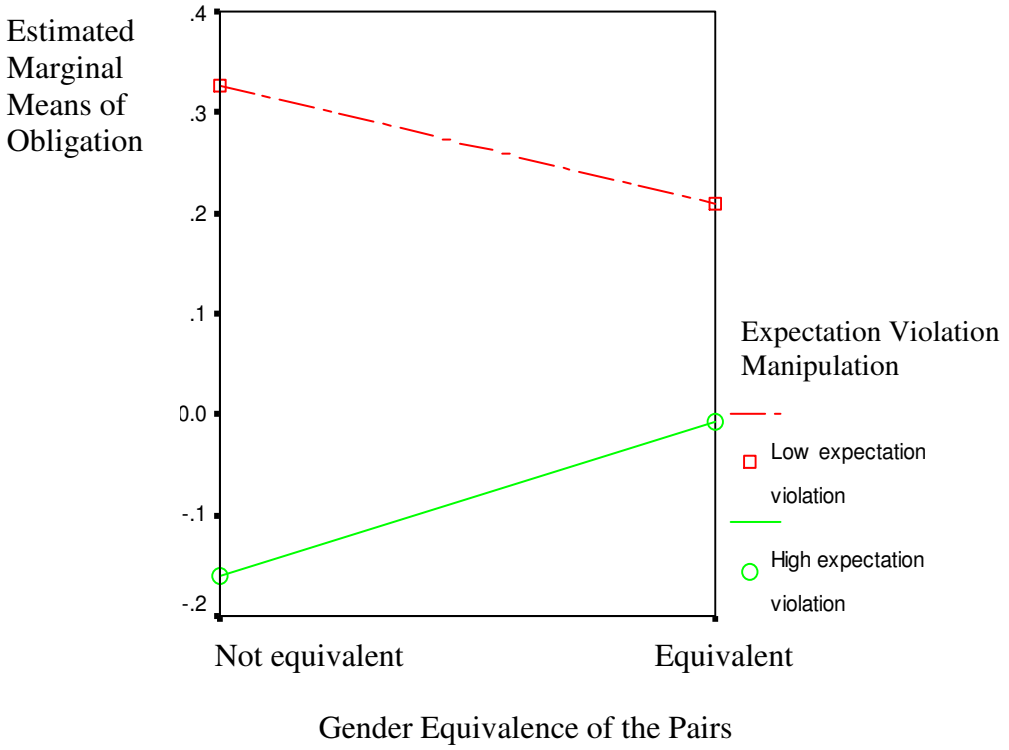


Figure 6. The interaction of expectation manipulation and gender equivalence on the obligation manipulation check.

perceived importance of relational goals was lower in the high expectation-violation condition than in the low expectation-violation condition for both participants in the gender equivalent and gender non-equivalent pairs. In addition, the interaction explained little variance of the dependent variable, with a partial η^2 of .02. Therefore, this interaction was not included in the model.

The confederates did not have a main effect on any of the 10 dependent variables in the 10 ANOVAs. In addition, chi-square test showed no difference across the five confederates in the frequency of attending each experimental condition ($\chi^2 = 12.14$, $df = 12$, $p > .05$) (see Appendix Q for the frequency of the attendance of each confederates in each experimental conditions). However, confederate did interact with the expectation manipulation to affect relational goal recall, $F(1, 192) = 3.16$, $p < .05$, partial $\eta^2 = .06$. As seen in Table 19 and Figure 8, for four of the confederates, participants who interacted with them reported lower level of relational-goal importance after the discussion in the high expectation-violation condition than in the low expectation-violation condition. One confederate, however, was associated with a very minor increase in recalled relational-goal importance in the high expectation-violation condition than in the low expectation-violation condition.

This result suggested that there were some differences in the five confederates that were influential, such as the confederates' verbal or nonverbal styles or physical attractiveness. However, the differences in the confederates did not have a main effect or interaction effect on all the other dependent variables, indicating that the influence of the individual differences of the confederates was not consistent. Moreover, the unexpected outcome– greater recalled relational goal importance in the high-expectation violation

Table 19

Means (and Standard Deviations) of Recall of Relational-Goal Importance (Independent Variables: Expectation Violation Manipulation and Confederate Performance)

	Confederates									
	A		B		C		D		E	
	High Ev	Low Ev	High Ev	Low Ev	High Ev	Low Ev	High Ev	Low Ev	High EV	Low Ev
M	-.36	.44	-.04	.20	.11	.17	-.19	-.21	.01	.34
(SD)	(1.01)	(.73)	(1.15)	(.89)	(.94)	(.94)	(.92)	(1.06)	1.14	(.93)

Note. The letters A, B, C, D, E were the labels assigned to the five confederates. EV = Expectation Violation Manipulation.

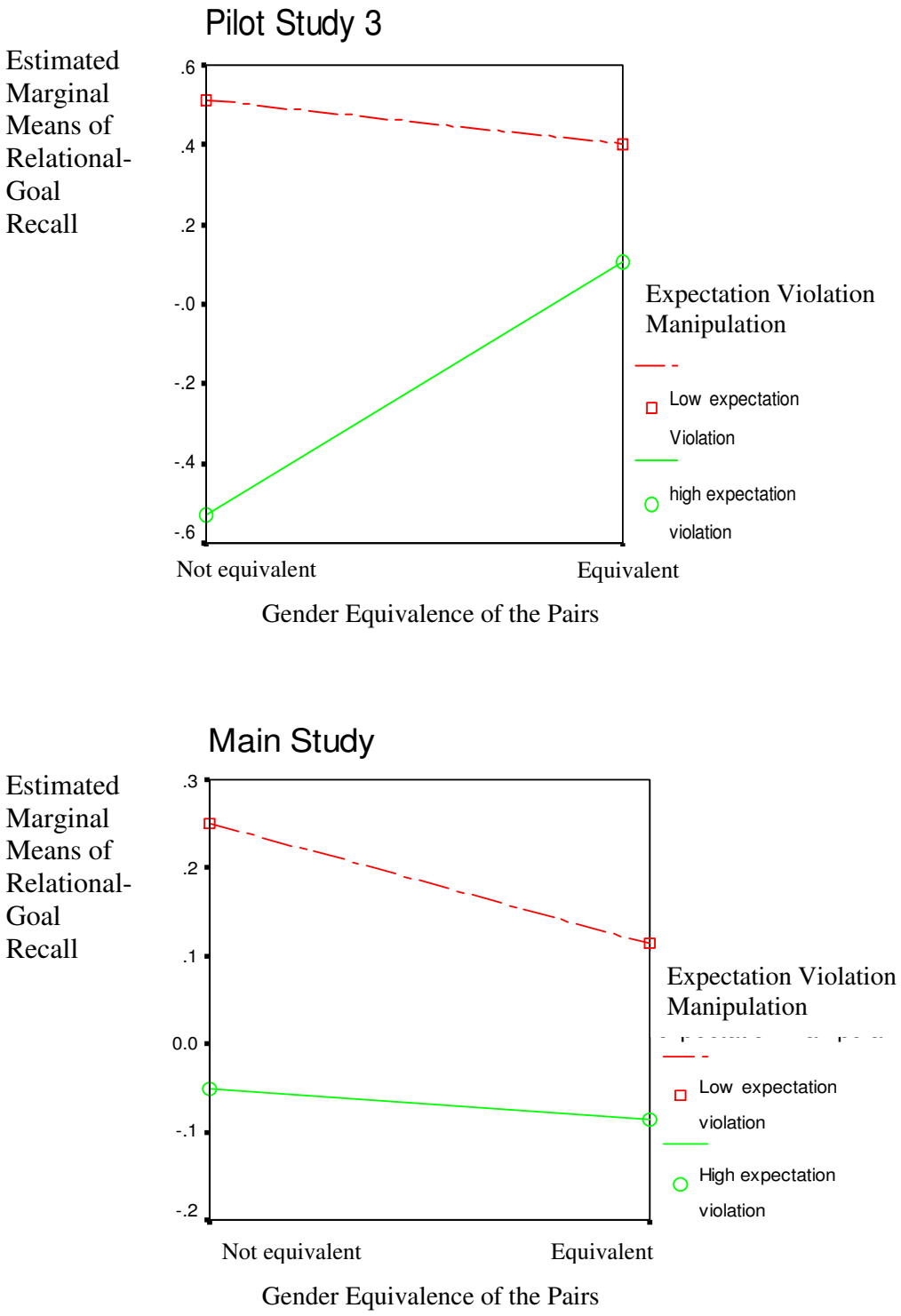


Figure 7. The three-way interaction of gender equivalence, expectation violation, and the sequence of studies on recall of overall relational-goal importance.

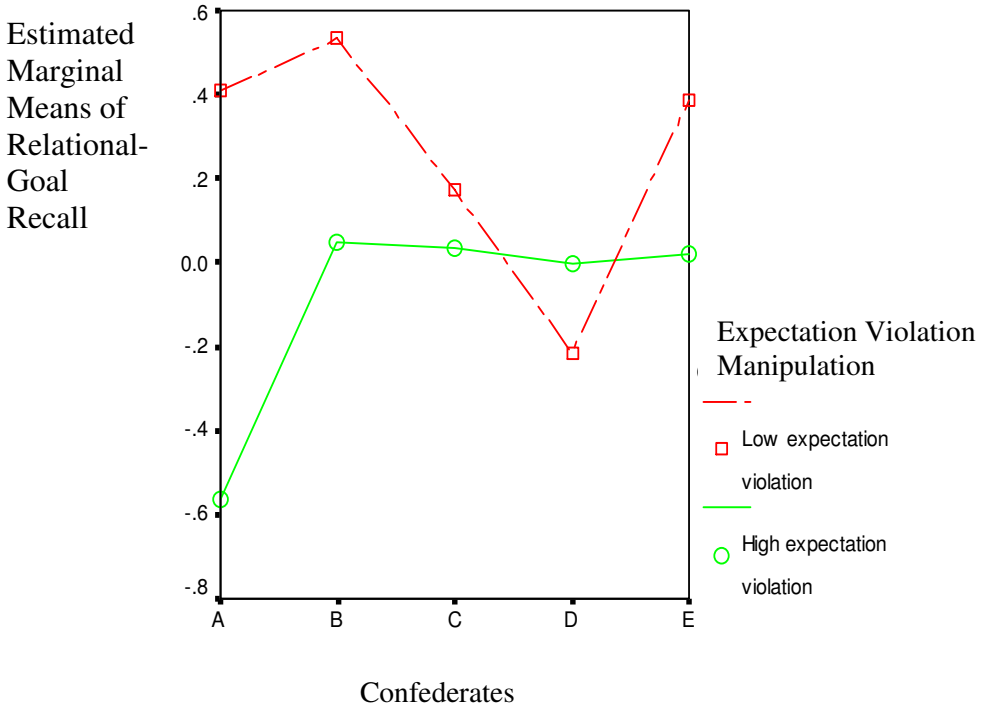


Figure 8. The interaction of expectation violation and confederates on recall of overall relational-goal importance. The letters A, B, C, D, E were the labels assigned to the five confederates.

condition than in the low expectation-violation condition – occurred for only one confederate, suggesting some idiosyncratic characteristics of the confederate, which deviated from the overall pattern for the confederates. Therefore, although this interaction brought attention to the existence of some individual differences in the confederates, the effect was not critical enough to be added to the model. Therefore, this interaction was not included in model testing.

Finally, the results of the 10 ANOVAs showed that the sequence of the studies (i.e., Pilot Study 3 versus the main study) did not have a main effect on any of the 10 dependent variables, nor did it interact with either of the manipulations in an influential way. The sequence of the studies interacted with the gender equivalence of the pairs to affect the expectation-violation manipulation check, $F(1, 192) = 5.02$, $p < .05$, partial $\eta^2 = .03$. The sequence of the studies also interacted with the expectation-violation manipulation to affect participants' strength of agreement with the statements indicating their use of avoiding-the-issue conflict strategy, $F(1, 192) = 4.47$, $p < .05$, partial $\eta^2 = .02$. Because none of the independent variables included in the ANOVA were hypothesized to affect the corresponding dependent variable in that equation and because of the low partial η^2 for both interaction effects, these two interactions were not included in the model. The data from Pilot Study 3 and the main study were therefore merged for model testing.

Perceived level of disagreement and conflict and the importance of the extra credit. Descriptive statistics showed that the experiment generated sufficient level of perceived disagreement and conflict ($M_{\text{disagreement}} = 145.98$, $Mdn_{\text{disagreement}} = 200.00$, $Mode_{\text{disagreement}} = 200.00$, $SD_{\text{disagreement}} = 67.98$; $M_{\text{conflict}} = 151.71$, $Mdn_{\text{conflict}} = 100.00$,

$Mode_{conflict}$ = 100.00, $SD_{conflict}$ = 136.40, based on the magnitude scale ranging from "0" to infinity, in which "100" represents the moderate level).

Participants considered one extra credit point as moderately important (*M* = 110.62, *Mdn* = 100.00, *SD* = 124. 38, based on the magnitude scale ranging from "0" to infinity, in which "100" represents the moderate level), suggesting that the extra credit motivated participation but did not serve as the main focus of the conflict, which was exactly what it was used for in the current study. In addition, an ANOVA with obligation manipulation and expectation violation manipulation as the independent variables and the importance of the one-extra-credit as the dependent variable was conducted to examine whether the importance of the one-extra-credit point differs across experimental conditions. The variable of perceived importance of the extra credit was first trimmed down to the 95th percentile and then transformed to the power of .45. After transformation, the variable distribution has a skewness of .06 and a kurtosis of -.23, both of which were not significant. The result showed no difference in perceived importance of the extra credit for participants across the two obligation conditions ($F[1, 252] = .21$, $p > .05$) and the two expectation violation conditions ($F[1, 252] = .46$, $p > .05$).

Model Testing

Model fit indices. The original model (model 1) with situated and relational goal importance measured before the discussion started was examined in LISREL 8.80 (Jöreskog & Sörbom, 2006) using maximum likelihood estimation based on the covariance matrix (see Appendix R). This model included links that represented all the hypotheses but no links for the two research questions. That is, the links from expectation violation to situated- and relational-goal importance were not included because the

measurement for the importance of these goals occurred before expectation violation occurred. Errors of the structural equations (ζ) were not allowed to covary. The two independent variables (ξ) were allowed to covary.

Hu and Bentler's (1999) joint criteria was used to evaluate model fit: (1) NNFI, CFI ≥ .96 and SRMR ≤ .09, or (2) SRMR ≤ .09 and RMSEA ≤ .06. The following fit indices were generated for the original model: $\chi^2(803, N = 240) = 474.24$, $p = 1.00$; RSMEA = .00; SRMR = .06; CFI = 1.00, NNFI = 1.29. According to Hu and Bentler's (1999) joint criteria, the model had a satisfactory fit to the data. In addition, the model $\chi^2/df = 0.59$, which was much smaller than the conventional cutoff value of 2.0 (Bollen, 1989; Kline, 2005), indicating an adequate model fit.

Hypothesis Tests

Unstandardized parameter estimates from the original model were examined to check the manipulations and evaluate the hypotheses.

Manipulation checks. The parameter estimate for the effect of the obligation manipulation on the obligation manipulation check was significant and in the expected direction ($b = 1.43$, $SE = 0.35$, $z = 4.10$, $p < .05$), indicating that high-obligation manipulation condition induced greater perceived obligation than the low-obligation condition. Therefore, the obligation manipulation was successful.

The effect of the expectation-violation manipulation on the expectation violation manipulation check was also significant and in the expected direction ($b = 0.21$, $SE = 0.04$, $z = 5.72$, $p < .05$), indicating that the high expectation-violation condition resulted in greater perceived expectation violation than the low expectation-violation condition. This manipulation was also successful.

Hypotheses testing. H1 states that the perceived obligation related to the general role to fulfill other's needs and concerns negatively affects the level of embracement of the situated role. The parameter estimate for the link from obligation manipulation check to role-embracement was not significant ($b = 0.04$, $SE = 0.06$, $z = 0.68$, $p > .05$), indicating that obligation did not cause a decrease in embracing the situated role. Therefore, this hypothesis was not supported.

H2 states that the perceived obligation related to the general role to fulfill other's needs and concerns negatively affects the perceived importance of situated goals. The parameter estimate for the link from obligation to situated goal importance was not significant ($b = 0.21$, $SE = 0.11$, $z = 1.91$, $p > .05$), suggesting that the obligation did not cause lower perceived importance of the situated goal. Therefore, H2 was not supported.

H3 states that perceived obligation related to the general role to fulfill other's needs and concerns positively affects the perceived importance of relational goals. The parameter estimate for the link from obligation to relational goal was significant and in the expected direction ($b = 0.47$, $SE = 0.13$, $z = 3.71$, $p < .01$), indicating that obligation caused greater perceived importance of the relational goal. Thus, H3 was supported.

H4 states that the level of embracement of the situated role positively affects the perceived importance of situated goals. The parameter estimate for the link from role-embracement to situated goal importance was significant and in the expected direction ($b = 0.46$, $SE = 0.17$, $z = 2.80$, $p < .05$). Embracement of the situated role caused an increase in perceived importance of the situated goal. Therefore, H4 was supported.

H5 states that the level of embracement of the situated role negatively affects the perceived importance of relational goals. The parameter estimate for the link from role

embracement to relational goal importance was not significant (b = -0.04, SE = 0.09, z = -0.40, $p > .05$), indicating that role embracement did not affect the perceived importance of relational goal. H5 was not supported.

H6 states that the perceived importance of the situated goal positively affects the use of the dominating conflict strategy. The parameter estimate for the link from situated goal importance to dominating conflict strategy was significant and in the expected direction (b = 0.10, SE = 0.03, t = 3.63, $p < .01$). Importance of the situated goal positively affected the strength of agreement of the participants with the statements indicating their use of dominating strategy (relational-disruptive confronting conflict behaviors). Therefore, H6 was supported.

H7 states that perceived importance of the situated goal positively affects the use of problem-solving confrontational strategy. The parameter estimate for the link from situated goal to problem-solving conflict strategy was not significant (b = 0.03, SE = 0.14, z = 0.20, $p > .05$). Importance of the situated goal did not affect participants' strength of agreement with the statements indicating their use of relational-protective confronting conflict strategy. H7 was not supported.

H8 states that perceived importance of the relational goals positively affects the use of problem-solving confrontational strategy. The parameter estimate for the link from relational goal importance to problem-solving strategy was significant and in the expected direction (b = 0.72, SE = 0.30, z = 2.36, $p < .05$), indicating that perceived importance of relational goal positively affected participants' strength of agreement with the statements indicating their use of the relational-protective confronting conflict strategy. Therefore, H8 was supported.

H9 states that perceived importance of the relational goal positively affects the use of avoiding-the-issue strategy. The parameter estimate for the link from relational goal importance to avoiding-the-issue strategy was significant and in the expected direction ($b = 0.09$, $SE = 0.03$, $z = 3.27$, $p < .01$), indicating that perceived importance of the relational goal positively affected participants' strength of agreement with the statements with the statements indicating their use of avoiding-the-issue strategy. Therefore, H9 was supported.

H10 states that perceived negative violation of role expectation by the other person will result in greater anger. The parameter estimate for the link from expectation violation to anger was significant and in the expected direction ($b = 0.67$, $SE = .12$, $z = 5.77$, $p < .01$). Greater expectation violation aroused more anger. Therefore, H10 was supported.

H11 states that anger positively affects the use of the dominating conflict strategies. The parameter estimate of the link from anger to dominating strategy was significant and in the expected direction ($b = 1.74$, $SE = 0.36$, $z = 4.87$, $p < .01$). Anger positively affected participants' strength of agreement with the statements indicating their use of the relational-disruptive confronting conflict strategy. H11 was supported.

H12 states that anger positively affects the use of the avoiding-the-person conflict strategy. The parameter estimate for the link from anger to avoiding-the-person strategy was significant and in the expected direction ($b = 0.73$, $SE = 0.15$, $z = 4.97$, $p < .01$), indicating that anger positively affected participants' strength of agreement with the statements indicating their use of the avoid-the-person strategy. H12 was supported.

See Table 20 for a summary of the parameter estimates for the original model. See Table 21 for the squared multiple correlations for each structural equation.

Investigating Research Questions

Model-data fit for model 2. Model 2 (Figure 9) differs from model 1 in two ways. First, two links were added to the model for examining research questions for (1) the effect of expectation violation on perceived importance of the situated goal, and (2) the effect of expectation violation on perceived importance of the relational goal. Second, the importance of the situated goal and that of relational goal were measured after the discussion was finished as a recall of the overall goal importance.

The model-data fit was tested using maximum likelihood estimation. The model fit indices met the joint criteria set by Hu and Bentler (1999) for an adequate fit (i.e., NNFI, CFI $\geq$ .96 and SRMR $\leq$ .09, or SRMR $\leq$ .09 and RMSEA $\leq$ .06.). The model had a $\chi^2(801, N = 240) = 486.64$, $p = 1.00$; RSMEA = .00; SRMR = .06; CFI = 1.00, NNFI = 1.29, indicating a good fit of the model to the data.

Research questions. Research question 1 asks whether negative violation of role expectation affects the perceived importance of situated goals. The parameter estimate for the link from expectation violation to situated goal importance was positive and significant ($b = 4.20$, $SE = 1.06$, $z = 3.98$, $p < .01$), indicating that the other party's negative violation of role expectation positively affected the focal individual's perceived importance of situated goal. Greater expectation violation resulted in greater perceived importance of the situated goal.

Table 20

Parameter Estimates of the Original Model (Model 1) with Pre-measured Goals and Fully Mediated Effects

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7 η_8 η_9 η_{10}	ζ
η_1	=	1.43**									25.99**
η_2	=		.21**	.04							14.32**
η_3	=										.34**
η_4	=			.21	.46*						41.25**
η_5	=			.47**	-.04						9.10*
η_6	=					.67**					.19**
η_7	=						.10**		1.74**		1.78**
η_8	=						.03	.72*			94.34**
η_9	=							.09**			.84**
η_{10}	=								.73**		.48**

* $p < .05$, ** $p < .01$.

Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy. The last column includes the error variances of all the structural equations.

Table 21

Squared Multiple Correlations for Each Structural Equation of the Original Model with Fully Mediated Effects and the Second Model with Links from the Expectation Violation Manipulation Check to Situated-Goal Importance (Research Question 1) and to Relational-Goal Importance (Research Question 2)

Dependent variable	Original Model (Model 1)	Model 2
Obligation	.14	.16
Role-embracement	.00	.00
Situated goal importance	.10	.31
Relational goal importance	.42	.38
Expectation violation	.21	.21
Anger	.50	.51
Dominant strategy	.47	.61
Problem-solving strategy	.08	.17
Avoiding the topic strategy	.14	.19
Avoiding the person strategy	.30	.33

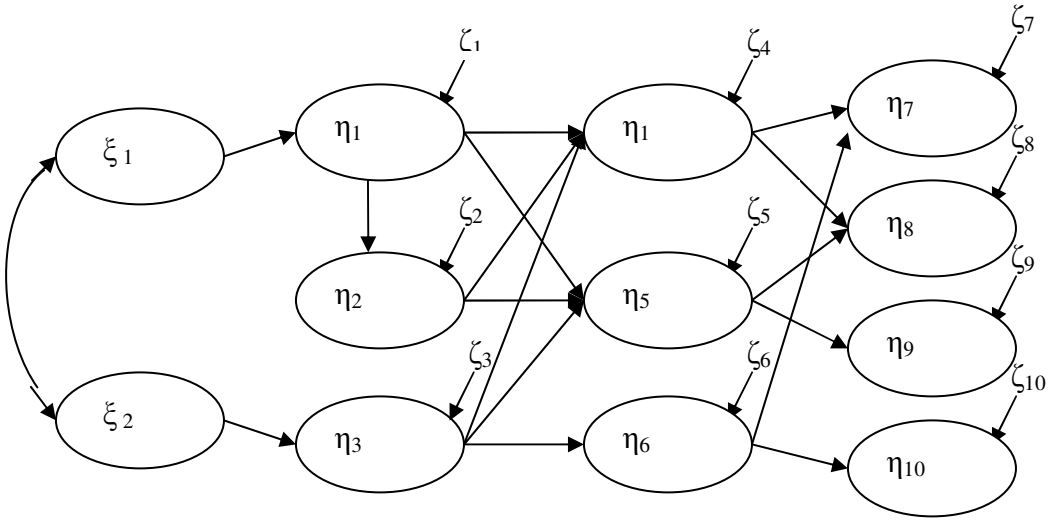


Figure 9. Model 2 with after-discussion measures for goal importance and links from expectation violation to goal importance variables. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal (recall); η_5 = importance of the relational goal (recall); η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

Research question 2 asks whether negative violation of role expectation affects the perceived importance of the relational goal. The parameter estimate of the link from expectation violation to relational goal importance was negative but not significant (b = -1.74, SE = 0.62, z = -1.74, $p > .05$), suggesting that the other party's negative violation of role expectation did not affect the focal individual's perceived importance of relational goal (Table 22).

Comparing parameter estimates for hypothesized links between Model 1 and Model 2. Table 30 provides a summary of the parameter estimates for all the hypothesized links and for the two research questions in model 2. As reflected in the table, the results of the parameter estimates for the hypothesized links in model 2 replicated that of model 1. As for model 1, the results from testing model 2 showed that H3, H4, H6, H8, H9, H10, H11, and H12 were supported, but H1, H2, H5, and H7 were not supported (Table 22). See Table 21 for the squared multiple correlations for each structural equation.

Testing Alternative Models

Because the original model involved fully mediated effects from the independent to the outcome variables, an alternative model (model 3) was tested to examine whether there were effects left unexplained by the mediation model. This alternative model included direct links from self- and other-role related variables (i.e., obligation, role-embracement, and expectation violation) to the outcome variables (i.e., conflict strategies) in addition to the links included in the original model (see Figure 10). Specifically, the following links were added: (1) the direct link from obligation-manipulation check to the use of the problem-solving conflict strategy and to the use of the avoiding-the-issue strategy, (2) the direct link from role embracement to the use of the dominating strategy

Table 22

Parameter Estimates of Model 2 with Post-measured Goals and Fully Mediated Effects

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7 η_8 η_9 η_{10}	ζ
η_1	=	1.56**									25.43**
η_2	=		.21**	.04							14.90**
η_3	=										.32**
η_4	=			.09	.76**	4.20**					35.86**
η_5	=			.47**	-.02	-1.09					11.44*
η_6	=					.70**					.19**
η_7	=						.15**		1.21**		1.44**
η_8	=						.08	.92*			80.73**
η_9	=							.10**			.80**
η_{10}	=								.69**		.38**

* $p < .05$, ** $p < .01$.

Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal (recall); η_5 = importance of the relational goal (recall); η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy. The last column includes the error variances of all the structural equations.

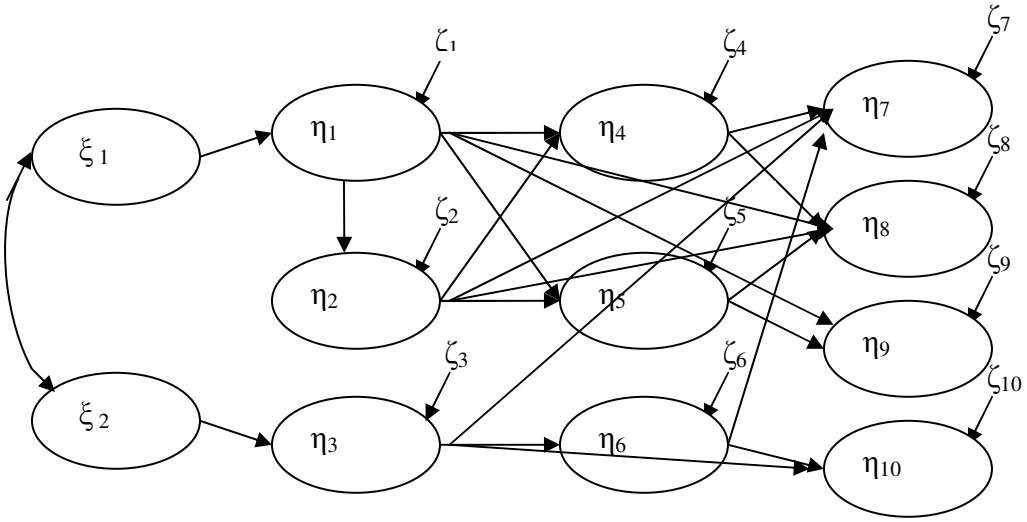


Figure 10. Model 3 with direct links from self- and other-role variables to outcome variables (with pre-discussion goal-importance measures). ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

and the use of the problem-solving strategy, and 3) the direct link from expectation-violation manipulation check to the use of dominating strategy and the use of avoiding-the-person strategy.

Model fit indices showed that this model fit the data: $\chi^2(797, N = 240) = 399.07$, $p = 1.00$; RSMEA = .00; SRMR = .06; CFI = 1.00, NNFI = 1.34. A chi-square difference test showed that this model significantly improved the original model, which is a nested model, $\Delta\chi^2(6, N = 240) = 75.17$, $p < .01$. Parameter testing showed that the obligation manipulation check did not have a significant and direct effect on the use of the problem-solving strategy ($b = 0.32$, $SE = 0.28$, $z = 1.17$, $p > .05$) or avoiding-the-issue strategy ($b = 0.05$, $SE = 0.03$, $z = 1.92$, $p > .05$). However, role embracement of the situated role had a significant and direct effect on the use of the dominating conflict strategy ($b = 0.12$, $SE = 0.05$, $z = 2.54$, $p < .05$) and the use of the problem-solving strategy ($b = .69$, $SE = .28$, $z = 2.43$, $p < .05$). In addition, the expectation-violation manipulation check had a significant and direct effect on the use of the dominating strategy ($b = 1.17$, $SE = 0.38$, $z = 3.07$, $p < .01$), and the use of the avoiding-the-person strategy ($b = .97$, $SE = .20$, $z = 4.80$, $p < .01$).

Next, the insignificant paths for the two direct effects from the obligation manipulation check were removed from the model and the model was retested. The following model fit indices were obtained: $\chi^2(799, N = 240) = 402.38$, $p = 1.00$; RSMEA = .00; SRMR = .06; CFI = 1.00, NNFI = 1.34. A chi-square difference test showed that this model fit equally well as the previous model that included the direct links from the obligation manipulation check ($\Delta\chi^2[2, N = 240] = 3.31$, $p > .05$). Therefore, this alternative model (model 4) (Figure 11) with direct links from role embracement to the

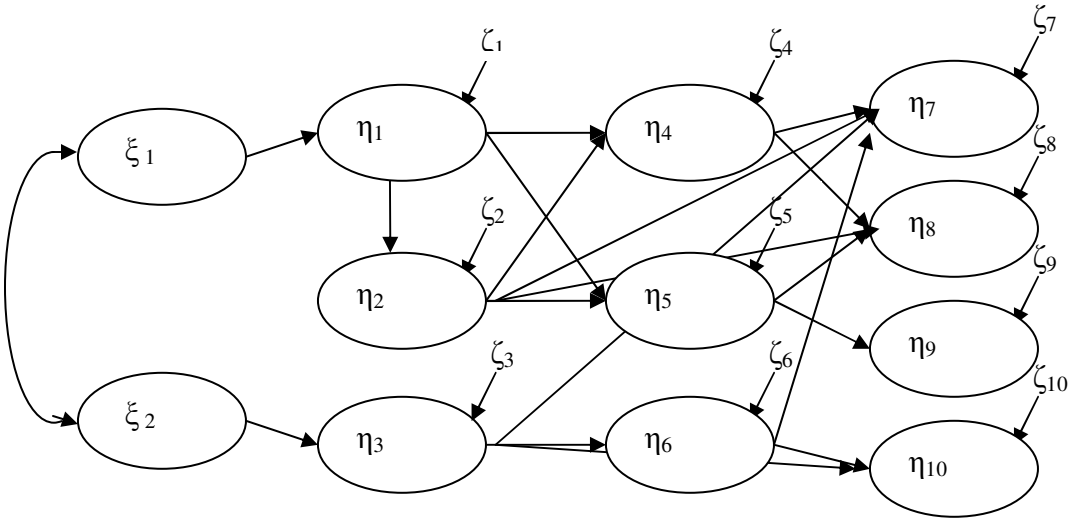


Figure 11. Model 4 with only direct links from role-embracement and expectation violation to outcome variables (with pre-discussion goal-importance measures). ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

use of the dominating and the use of the problem-solving strategy and from expectation-violation manipulation check to the use of the dominating and the use of the avoiding-the-person strategy was preferred over model 3 because it fit equally well but with greater parsimony. See Table 23 for parameter estimates of model 4. Finally, the same direct links included in model 4 were added to model 2, which became model 5 (see Figure 12), to examine the direct effects in the model based on the after-discussion measure of goal importance. Model fit indices for this model were as follows: $\chi^2(797, N = 240) = 415.21$, $p = 1.00$; RSMEA = .00; SRMR = .06; CFI = 1.00, NNFI = 1.33. A chi-square difference test showed that model 5 significantly improved the mode data fit from the nested model 2 ($\Delta\chi^2[4, N = 240] = 71.43$, $p < .01$).

As evident in Table 24, the only difference in the significance levels for all the direct effects in model 5 as compared to model 4 was that the effect from role embracement to the use of the dominating strategy was not significant. In addition, the significance level of the parameter estimates for hypotheses and research questions in both model 4 and model 5 were consistent with those of model 1 and model 2, except for the effects of anger on the use of the dominating and avoiding-the-person strategies. These two effects were not significant in models 4 and 5 (see Table 24 for parameter estimates and Table 25 for squared multiple correlations for each structural equations).

In summary, the alternative models (model 4 and model 5) suggested that there were effects from role embracement and from expectation violations that were left unexplained by the fully mediated models (model 1 and model 2). The two alternative models significant improved model fit from models 1 and 2. However, because model 1 and model 2 already had very good fit, these two models were retained. The leftover

Table 23

Parameter Estimates of the Model 4 with Pre-Measured Goals and Direct Effects.

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	η_{10}	ζ
η_1	=	1.43**												26.04**
η_2	=		.19**	.04										14.40**
η_3	=													.35**
η_4	=			.22	.42*									41.90**
η_5	=			.48**	-.09									9.01*
η_6	=					.59**								.27**
η_7	=				.12*	1.17**	.08*		.70					1.69**
η_8	=				.74*		-.11	.75*						81.77**
η_9	=							.10**						.83**
η_{10}	=					.97**			-.04					.36**

* $p < .05$, ** $p < .01$.

Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal; η_5 = importance of the relational goal; η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy. The last column includes the error variances of all the structural equations.

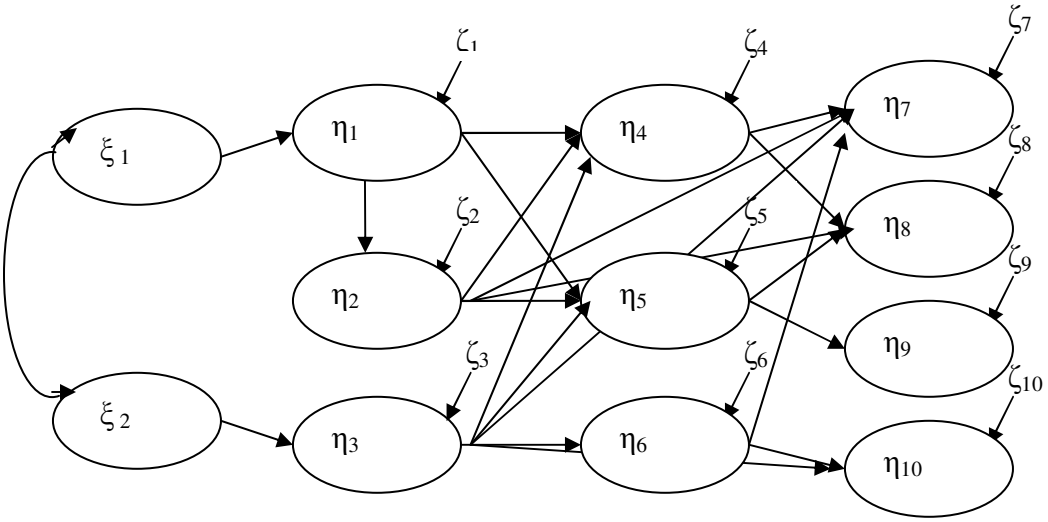


Figure 12. Model 5 with direct links based on model 2. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal (recall); η_5 = importance of the relational goal (recall); η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

Table 24

Parameter Estimates of the Model 5 with Post-measured Goals and Direct Effects

η		ξ_1	ξ_2	η_1	η_2	η_3	η_4	η_5	η_6	η_7	η_8	η_9	η_{10}	ζ
η_1	=	1.56**												25.53**
η_2	=		.19**	.04										15.15**
η_3	=													.33**
η_4	=			.10	.73**	4.14**								37.29**
η_5	=			.47**	-.09	-.85								11.44*
η_6	=					.63**								.26**
η_7	=				.09	1.06*	.12**		.42					1.39**
η_8	=				.78*		-.12	.90*						69.78**
η_9	=							.11**						.77**
η_{10}	=					.97**			-.07					.28**

* $p < .05$, ** $p < .01$.

Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal (recall); η_5 = importance of the relational goal (recall); η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy. The last column includes the error variances of all the structural equations.

Table 25

Squared Multiple Correlations for Each Structural Equation in Model 4 and Model 5

Dependent variable	Model 4	Model 5
Obligation	.14	.16
Role-embracement	.00	.00
Situated goal importance	.09	.29
Relational goal importance	.44	.38
Expectation violation	.18	.18
Anger	.35	.38
Dominant strategy	.52	.63
Problem-solving strategy	.16	.24
Avoiding the topic strategy	.15	.22
Avoiding the person strategy	.51	.55

effects suggested by the direct links in models 4 and 5 warrant further investigation to understand the mechanisms of these effects before further revising the models. Based on the parameter estimates for the hypotheses and research questions, model 5 with all the significant links was presented in Figure 13. This model is therefore recommended by this dissertation as the best model for roles' approach to conflict strategies.

Post-Hoc Analyses

The Effect of Perceived Levels of Disagreement and Conflict on Dependent Variables

The confederates' expectation violation behaviors could have induced greater levels of perceived disagreement and conflict in the high expectation violation condition than in the low expectation violation condition. If that is the case then perception of conflict may become a confounding variable that affects the dependent variables and thus provides alternative explanations for the effect of expectation violation on the dependent variables. To investigate this alternative explanation, a series of analyses were conducted.

First, a MANOVA was conducted to examine whether the perceived conflict and disagreement differs across experimental conditions. Obligation manipulation and expectation violation manipulation were entered into the equation as the independent variables and perceived levels of disagreement and conflict as the dependent variables. The results showed that participants from the high obligation and low obligation conditions did not differ in perceived level of disagreement ($F[1, 255] = .24$, $p = .62$) or conflict ($F[1, 255] = .52$, $p = .47$). However, the perceived level of disagreement ($F[1, 255] = 20.08$, $p < .05$, partial $\eta^2 = .07$) and conflict ($F[1, 255] = 21.76$, $p < .05$, partial $\eta^2 = .08$) differed across the two expectation violation conditions. Participants in the high expectation violation condition reported greater level of disagreement ($M = 164.46$, $SD =$

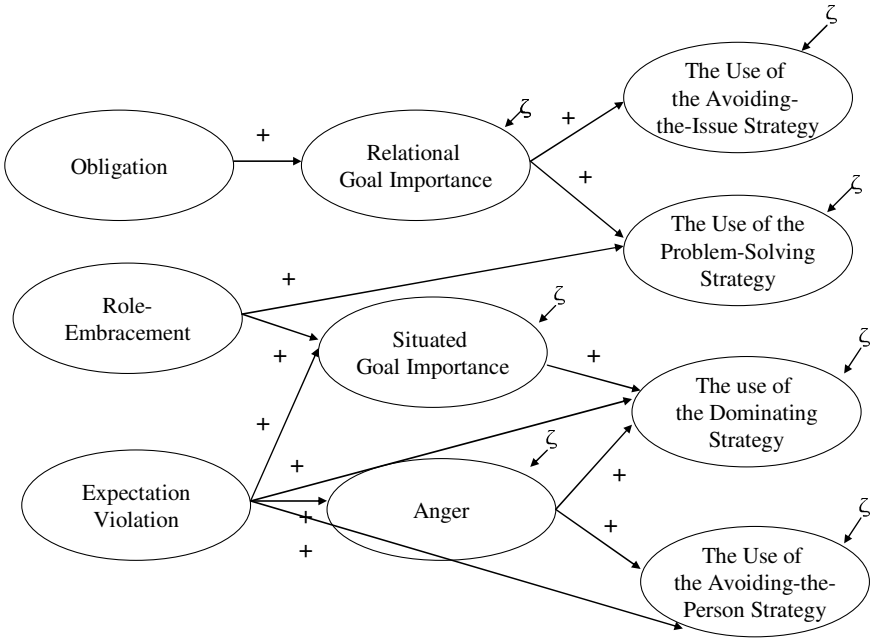


Figure 13. The recommended model for roles approach based on model 5 with all the significant links.

61.12) and conflict (M = 191.32, SD = 151.93) than those in the low expectation violation condition (M = 127.92, SD = 69.70 for perceived disagreement; M = 113.79, SD = 107.82 for perceived conflict).

Next, to investigate whether perceived disagreement and conflict provided alternative explanations for the effect of expectation violation on the dependent variables, four stepwise regressions were conducted with situated-goal importance, anger, the use of the dominating strategy and the use of the avoid-the-person strategy as the dependent variables for the four regressions. Perceived level of disagreement, perceived level of conflict, and perceived expectation violation were entered into the regression stepwise. R^2 changes were evaluated for each step.

Results showed that although perceived conflict and disagreement were significantly associated with the situated-goal importance, anger, the use of the dominating strategy, and the use of the avoiding-the-person strategy, after controlling for the effects due to the perceived level of disagreement and conflict, perceived expectation violation significantly contributed to explaining the variance of all four dependent variables: situated-goal importance (R^2_{change} = .02, $p < .05$; B = .14, SE = .06, t = 2.09, $p < .05$), anger (R^2_{change} = .19, $p < .01$; B = .48, SE = .06, t = 8.75, $p < .01$), the use of dominating strategy (R^2_{change} = .09, $p < .01$; B = .34, SE = .06, t = 5.64, $p < .01$), and the use of avoid-the-person strategy (R^2_{change} = .22, $p < .01$; B = .52, SE = .06, t = 8.78, $p < .01$). Therefore, the model propositions regarding the effect of expectation violation on goal importance, anger and the use of conflict strategies were further supported.

Suspicion of the Task

Participants reported moderate level of suspicion for the nature of the task (M = 102.49, Mdn = 100.00, SD = 102.85, based on the magnitude scale ranging from 0 to infinity, where 100 represents the moderate level). Each participant was interviewed after the debriefing regarding their suspicion for the nature of the task. Most of the participants indicated that they did not have suspicions about the task during the discussion. Some participants mentioned that they did not have suspicions until they were completing the final questionnaire. Only a small portion of the participants explicitly admitted that they did not know at all that the task was made up for research purpose. However, it was difficult to detect whether social desirability and the suspicion question generated the reported suspicion in the participants. Nonetheless, the moderate level of reported suspicion suggested that the experimental setting did not deviate problematically from a realistic conflict situation.

An ANOVA with obligation manipulation and expectation violation manipulation as the independent variables and the level of suspicion as the dependent variable was conducted to examine whether level of suspicion provided an alternative explanation for the results of model testing and hypothesis testing. Level of suspicion was trimmed down to the 95^{th} percentile and transformed to the power of .55. The skewness, .14, and kurtosis, -.46, of this variable distribution was not significant. The ANOVA result showed no difference in reported suspicion across the two obligation conditions (F[1, 253] = 1.63, $p > .05$) and across the two expectation violation conditions (F[1, 253] = .04, $p > .05$). Therefore, this potential alternative explanation was also ruled out.

CHAPTER V

Discussion

This section begins with a summary of the study. The results from the main experiment are then interpreted and implications of the results are discussed. Next, the limitations of this dissertation are discussed, followed by directions for future research. The section ends with a discussion of the theoretical and methodological significance of the study.

Summary of the Study

The purpose of this study was to examine the process of how an individual's enactment of general versus situated roles and the other person's role behavior affect the individual's conflict strategies. Obligation to fulfill the other's needs and concerns was used to represent role enactment of the general role. Embracement of the situated role was used to represent role enactment of the situated role. Obligation from the general role was proposed as a constraint on the individual's embracement of the situated role. The enactment of the general and situated role was expected to affect the use of various conflict strategies through the mediating effect of situated- and relational-goal importance. The other person's violation of role expectations was expected to affect the focal individual's use of conflict strategies through the mediating effect of anger. Four categories of conflict strategies were examined based on two dimensions: confronting versus nonconfronting, and relational-protective versus relational-disruptive. A model was created with the obligation from the general role and the other's violation of role expectations as the independent variables, and embracement of the situated role, situated

and relational goal importance, and anger as the mediating variables, and the four types of conflict strategies as the outcome variables.

A 2 (high vs. low obligation) by 2 (high vs. low expectation violation) experimental design was used. The experimental situation was created to involve participants in a decision-making task in which they needed to have a discussion with a confederate over conflicting rankings of candidates for a scholarship program.

Three pilot studies were conducted before conducting the main experiment to (1) examine and improve the reliability of the measures of the variables, (2) examine the realism of the conflict situation and experimental materials, (3) test the effectiveness of the obligation manipulation, (4) develop and test the effectiveness of the expectation violation manipulation, and (5) examine the equivalence and reliability of the confederates' performances. The experimental materials, including the manipulation, instruments, and procedures, were used in the main study.

Pilot Study 1 preliminarily tested the theoretical model proposed in this dissertation based on the participants' recall of a recent conflict they experienced. The model had a moderate fit to the data. An alternative model with direct links from the enactment of the general role and the other's expectation violation to the corresponding conflict strategies was tested. The alternative model showed significant improvement in model fit, suggesting that there were direct effects of role-enactment on the use of conflict strategies left unexplained by the fully mediated model.

The experimental procedure for the main study was the same as that used in pilot Study 3. Participants were involved in the task of ranking candidates for an alleged scholarship program at their university and they took part in a discussion with another

participant who was actually a confederate. The ranking of the candidates for the confederates were manipulated to be opposite from the rankings by the participants. A small amount of reward was offered to those who could persuade the other person of his or her own ranking. High versus low obligation was induced by priming the participants with either the role of a friend and the obligations associated with that role or by asking participants to avoid being distracted by roles other than the role of student evaluator. High versus low expectation violation by the other was induced by having the confederates engage in behaviors that were opposite of participants' expectations for the role of a friend and the role of a student evaluator. These behaviors were determined based on results from the Pilot Study 2.

Two questionnaires were administered in the main study. The first questionnaire included a measure of the perceived importance of the situated goal, the perceived importance of relational goal, and the obligation manipulation check. This questionnaire was administrated before the discussion and after the participants came up with their individual rankings and read the obligation manipulation. The second questionnaire included measures for perceived level of conflict and disagreement, the use of various conflict strategies, recall of overall situated goal and relational goals, role-embracement, expectation violation, anger, and demographic information. All participants were thoroughly debriefed before they were dismissed from the study.

Preliminary analyses showed that Pilot Study 3 and Main study did not differ in their influences on the study. Therefore, data from the two studies were combined, yielding a total sample of 261 participants. The obligation manipulation and expectation violation manipulation did not interact in predicting the dependent variables. The main

effect of discussion pairs' gender equivalence, who the confederates were, and their interactions with the independent variables on the dependent variables were examined. Results showed that gender equivalence and who the confederates were did not affect any of the dependent measures. Although there were interactions of these two variables with the expectation-violation manipulation on recall of relational goal, these effects did not influence the interpretation of the main effects and accounted for negligible proportion of variance in the dependent variable, and thus were not included in further model testing.

Structural equation modeling was used to test the models and evaluate the hypotheses. The original model that involved pre-discussion goal measures was first tested and the hypotheses were evaluated. The research questions were investigated in a second model in which post-discussion goal measures replaced the pre-discussion goal measures. Three alternative models were further tested. Model fit indices and parameter estimates of the alternative models were compared with the first two models.

Summary and Interpretation of the Results

Hypothesis 1: The Effect of Obligation on the Enactment of the Situated Role

The behavioral expectations of the situated role may be constrained by the behavioral expectation associated with other roles that were enacted in the situation, which could result in less concern for the situated role. Therefore, when both the general and the situated roles are perceived in a conflict situation, the obligation from the general role to fulfill the other's needs and concerns was expected to negatively affect an individual's embracement of the situated role.

However, this hypothesis was not supported. Obligation was not shown to constrain individuals' role embracement of the situated role. This finding suggests that

obligation influenced the use of conflict strategy through goals but without constraining role embracement. One possible explanation for this finding is that the participants may have perceived engaging in the role of friend as part of the task because the following statement was included in the instructions: "to make the discussion as natural as possible." It was possible that both roles (i.e., friend and student evaluator) were given high attention by the participants. The effect of enacting the general role and the situated role seemed to be two separate processes rather than one constraining the other.

In Pilot Study 1, the effect of obligation on role embracement was positive and significant, suggesting that greater obligation increased the focus on the situated role. Obligation from the general role may have brought more attention to the situated role due to the conflicting role expectations. The conflicts recalled by those participants in the role of friend (i.e., the role used to induce high obligation) also may have been considered as more intense. The participants may have reported greater role embracement because they were more engaged in the conflict situation. Nonetheless, the results from both Pilot Study 1 and the main study suggest no constraining effect of obligation on role-embracement of the situated role.

Hypotheses 2, 3, 4, and 5: *The Effect of Role Enactment on Goals*

The enactment of the general and situated roles were proposed to affect the perceived importance of the situated goal and relational goal. If roles made certain situational features more salient for the focal individual, the corresponding goals stored in the role-related cognitive structure would be activated (Wilson, 1995). Obligation to the general role was expected to positively affect the perceived importance of the relational goal (H3) but negatively affect the perceived importance of the situated goal (H2). On the

other hand, role embracement for the situated role was expected to positively affect the importance of the situated goal (H4) but negatively affect the importance of relational goal (H5).

The results showed that greater obligation from the general role did increase the importance of the relational goal and that greater role embracement of the situated role caused greater importance for the situated goal. However, obligation was not significantly associated with the situated-goal importance, and role-embracement was not significantly associated with the relational-goal importance. This finding showed that the effect of role enactment on goals strictly followed the cognitive rules approach (Wilson, 1995). That is, the roles activated their corresponding goals only; any other goals seemed to be irrelevant to that particular role and were not affected. This finding also showed the importance of the situated goal and that of the relational goal could be perceived in the same interaction when both the general and situated roles were salient.

Hypotheses 6 and 7: The Effect of Situated Goal Importance on Confronting Strategies

Because the situated goal suggested a motivation for actively pursuing the conflict, perceived importance of the situated goal was expected to positively affect the use of two confronting strategies: the dominating (H6) and problem-solving strategies (H7). Hypothesis 6 was supported in that greater perceived importance of situated goal positively predicted participant's strength of agreement with the statements indicating their use of the dominating strategy. However, situated-goal importance was not significantly associated with the use of the problem-solving conflict strategy (H7).

The problem-solving strategy is a cooperative one and seemed to be associated more with the relational dimension than the confrontational dimension. Further, the

importance of the situated goal seemed to be associated with only the confronting strategy, which does not have concern for protecting the relationship. The experimental design emphasized that the situated goal is instrumental and competitive. Wang et al. (2007) found that instrumental competitive goals predicted the dominating and passive competition conflict strategies but not the cooperative conflict strategies. Their findings are consistent with the current finding that only the dominating strategy was predicted by the importance of the situated goal.

The instrumental situated goal mediated the effect of role-embracement on the use of the dominating strategy. However, the effect of role embracement on the use of the problem-solving strategy was not mediated by the importance of the instrumental situated goals. Further research is needed to examine whether the use of the dominating or problem-solving strategies are predicted when the situated goal is more relational rather than instrumental.

Hypotheses 8 and 9: The Effect of Relational Goal Importance on Relational-Protective Strategies

Perceived importance of the relational goal was expected to positively affect the use of the two relational-protective conflict strategies, problem-solving (H8) and avoiding-the-issue (H9). Both hypotheses were supported. Participants reported greater strength of agreement with the statements indicating their use of the problem-solving strategy and avoiding-the-issue strategy when there was greater relational goal importance. This result replicated the findings in the existing literature that problem-solving and yielding were two common strategies to use when relational concern is high. Because obligation from the general role positively predicted perceived relational goal

importance, which further predicted the two relational-protective strategies, findings from the current study supported the notion that the importance of the relational goal is the mediating variable that links obligation to the use of the two conflict strategies.

Hypothesis 10, 11, and 12: The Mediating Effect of Anger on the Relationship of Expectation Violation and Relational-disruptive Conflict Strategies

Violating role expectations has been reported in emotion research as one of the main causes of anger (Averill, 1983). The conflict behaviors of individuals who encounter unexpected competitive conflict strategies suggest that anger may mediate the effect of expectation violation on the use of the relational-disruptive conflict strategies. Therefore, expectation violation was expected to predict anger (H10), which was further expected to predict the use of dominating (H11) and avoiding-the-person strategies (H12).

All three of these hypotheses were supported. Greater anger was reported when high expectation violation by the other party was perceived rather than low role expectation violation. Further, participants reported greater strength of agreement with the statements indicating their use of the dominating strategy and avoiding-the-person strategy when they also reported greater anger. These findings showed that reactive responses to others' unexpected competitive conflict strategies were not just simple matching behaviors. Emotion played an important role in this process. The relational-disruptive conflict strategies were driven by anger rather than by the direct results of the other's role behaviors. This finding indicates that the emotion induced by the role behaviors of the other party is an important factor that may alter individuals' conflict strategies regardless of their general conflict styles.

Research Questions: Investigating the Effect of Expectation Violation on Goals

Two research questions were posed to investigate whether the other party's expectation violation changed the general motivation for handling the conflict (i.e., the perceived importance of goals). Research Question 1 asked whether negative violation of role expectations predicted the importance of the situated goal. The result showed a positive and significant effect of expectation violation on situated-goal importance. Greater perceived expectation violation resulted in greater situated-goal importance, indicating that the other person's behavior altered the focal individual's motivation for pursuing the conflict issue.

Research question 2 asked whether negative violation of role expectation predicted the importance of the relational goal. Parameter estimates showed that relational goal importance was not affected by the other's expectation violations. This finding was inconsistent with that of Pilot Study 1, in which expectation violation was found to negatively predict perceived relational goal importance. The interaction effects of expectation-violation manipulation and several extraneous variables suggested that the effect of expectation violation on relational-goal importance was more salient for certain part of the sample than others.

For example, the interaction effect of gender equivalence of the pairs and the expectation-violation manipulation on relational-goal recall showed that the negative effect of expectation violation on relational goal was stronger for participants in the mix-gender pairs than those in the same-gender pairs. In addition, four of the five confederates were associated with a lower level of recalled relational-goal importance in the high expectation-violation condition than in the low expectation-violation condition. Further

studies are needed to investigate the above interaction and the effect of expectation violation on relational-goal importance.

Interpretation of Model Comparisons

The proposed model in the current dissertation was tested using different ways of measuring goal importance (i.e., pre-discussion vs. post-discussion measures). The model fit for either goal measurement method. Models with direct links from enactment of the self role and the other's role to their corresponding conflict strategies were tested. Compared to the fully mediated models, models with direct links fit better, indicating that there were direct effects of role-enactment on the use of conflict strategies left unexplained by the fully mediated models.

The results for hypothesis testing were replicated in the models with direct links, except for the effect of anger on the use of the two relational-disruptive strategies (i.e., dominating and avoiding-the-person). The two parameters for these effects were not significant in the models in which expectation violation was directly linked to the use of the dominating and avoiding-the-person strategies. This finding suggested that although anger did cause the use of relational-disruptive conflict strategies, these strategies were due more to the direct reaction to the other's unexpected behaviors than to the mediating effect of anger.

Testing the models with direct links showed that the effect of role obligation on the use of the conflict strategies was fully mediated by the importance of the relational goal. However, there were effects left unexplained by the fully mediated effects of the situated goal for the relationship between role-embracement and conflict strategies. These results suggested that the situated role had direct behavioral consequences without any

mediating cognitive process. In comparison, obligation from the general role only affected the use of a particular conflict strategy in an indirect way, through goal importance. This result may be because there are specific behavioral expectations associated with the situated role due to the salience of the immediate situation. Behavioral expectations for the general role, which is often latent in the immediate situation (Goffman, 1961), may be more general and relate only indirectly to the immediate situation. Therefore, the effect of the general role influences behavior through the mediating effect of the relational goal.

The significance of the parameter estimates in the two models with direct links that involved different goal measures was the same except for the link from role embracement to the use of the dominating strategy. The parameter estimate was significant in model 4 with pre-discussion goal measures but not in model 5 with post-discussion goal measures. The significant effect of role embracement on the use of the problem-solving conflict strategy suggested that this relational-protective confronting strategy was a direct consequence of embracement of the situated role, although it was not influenced by the mediating effect of the situated goal. In comparison, role embracement did not have a direct effect on the use of the dominating strategy, as indicated by the parameter estimates for model 5 (Figure 13). This effect may be mediated by the pursuit of the situated goal, suggesting that being dominant may not be an expected behavior associated with the role of student evaluator. Instead, the student evaluator role was associated with the behavioral expectation of working together cooperatively to solve the issue, as evidenced by the use of the problem-solving strategy. The dominating behaviors were resulted from this role because the role induced greater

perceived importance of the situated goal, which led to a greater likelihood of using relational-disruptive confronting strategies.

In summary, models 4 and 5, with direct links from role embracement to the use of the dominating and problem-solving strategies and from expectation violation to the use of the dominating and avoid-the-person strategies, fit better than the fully mediated models. Moreover, model 5 delineated the effects of expectation violation on goal importance, which were not addressed in model 4 because goals included in model 4 were measured prior to the discussion. Therefore, model 5 (Figure 13) was the best model for addressing the questions in this dissertation.

Limitation of the Study

The roles approach model proposed in this dissertation specified the conditions under which confronting versus nonconfronting and relational-protective versus relational-disruptive strategies could be predicted. However, the model did not specify the conditions under which each type of goal importance and anger could predict the use of one specific conflict strategy versus another. For example, anger was proposed to affect both the use of the dominating and avoiding-the-person strategies, but the condition under which one versus the other would be used was not tested. Similarly, the model did not specify the condition under which the relational goal would predict the use of the cooperative versus avoiding-the-issue strategies. Instead, the model assumed that many conflict strategies may co-exist but be given different emphases. The model predicts the use of the strategy that may be the predominant behavioral pattern in the immediate situation based on the enactment of self and the other's roles. For example, if obligation for the general role is high and role embracement is low, then avoiding-the-

issue and problem-solving strategies may be used. However, if other' expectation violation is high, then expectation violation (1) increased the importance of the situated goal, which predicted a greater likelihood of using the dominating strategy, (2) decreased the importance of the relational goal, which predicted a lower likelihood of using problem-solving and avoiding-the-issue strategies, and (3) increased anger, which predicted a greater likelihood of using dominating and avoiding-the-person strategies. As a result, expectation violation predicted an overall conflict strategy pattern in which the dominating strategy is most predominantly used followed by the avoiding-the-person strategy.

Other than model specification, there were a few limitations involved in the experimental procedure. The five confederates were trained to achieve a high level of behavioral equivalence. However, toward the end of the experiment, some individual differences in conducting the expectation-violation behaviors did appear. This difference was probably due to the fatigue. The experiment was conducted for three weeks in a row to make sure that time of the study and the need for extra credit would not be a confounding variable in the study (e.g., participants would not need any extra credit after the semester ended). The confederates, therefore, needed to participate in about three hours of discussion each day during the three weeks except for the weekends. Although the experimenter held a briefing to reiterate the behavioral instructions every week, the equivalence of confederates' performances may have decreased toward the end of the experimental period. Differences might have been reflected in the interaction with expectation violation on relational goal importance. In contrast to the other four confederates, one of the confederates' expectation violation behaviors resulted in an

increase, as opposed to a decrease, in relational-goal importance. Future studies need to address ways of allowing enough time for confederates to remain recharged although still maintaining the experiment's tight schedule to prevent the effect of external circumstances.

In addition, the study induced obligation by priming the role of friend. However, to what extent the participants in the high obligation condition really considered the other party as a friend was not known; after all, the two persons in the conflict had not met before. A couple of participants mentioned to the researcher after the study that they felt that it was difficult to see the other person as a real friend. However, the purpose was to induce obligation for fulfilling other's needs and concerns, which is one of the key element in general roles such as friend. The friend role was used to induce such obligation. The induction for obligation, which is the actual independent variable of the model, was successful. Therefore, interpretation of the current study needs to focus on the effects of obligation rather than on the friend role.

Another concern has to do with the limitations for the experimental setting. The experiment was conducted in two laboratories. Because one laboratory was larger than the other, some sessions of the experiment involved two pairs of couples discussing simultaneously in the large laboratory whereas there was only one couple in the smaller laboratory. This information was not coded and or statistically controlled for in the analyses. It was assumed that the influence of the other discussion pair on the focal individuals' behaviors should be minimal, as it would be overshadowed by the effects of the roles brought salient in the experimental task. Nonetheless, the level of distraction in the two lab rooms was different, which could account for individuals' responses to the

task. For example, one participant in the large room might overhear an argument from the other pair in the same room and then change his or her own arguments.

Moreover, the actual interaction of the discussion partners in the current study was not taped or coded. The decision of not taping the interactions was based on the concern for preventing suspicion from the participants and ensuring responses unaffected by being observed. Nonetheless, the variables in the model were based on self-report data. Although the experimental procedure allowed the participants to provide answers based on their fresh memory of the interaction, the limitations of self-report still may have applied (Nisbett & Wilson, 1977). Future studies may use experimental tasks in which videotaping would not cause any obvious potential effects on participants' responses.

Directions for Future Research

The effect of obligation on role embracement needs to be further investigated. In this study, obligation was expected to constrain role embracement of the situated role. However, the experiment results defied this expectation. The current study suggests that the two roles functioned independently. This finding needs to be replicated. If the two types of role do not influence each other, then both roles need to be manipulated in a future study. Role conflict may need to be taken into consideration when both the general and the situated roles are highly salient but with incompatible prescriptive and proscriptive behavioral expectations.

Another direction worth investigation is to see whether the enactment of the general role revised the behavioral expectation for the situated role. In other words, a new role may have emerged during the conflict that is different from both the situated and the general role. Goffman (1961) suggested that individuals may revise their behavioral

expectations for a situated role when a more general role is also enacted. Future study may examine whether, instead of influencing the level of embracement of the situated role, the general role actually changes the behavioral expectation of the situated role.

In addition, the model needs to be tested to include other conflict types. The current model was tested on a task conflict. However, the model also was proposed to be applicable to relational conflict. In a relational conflict, the situated goal is a relational one. However, two types of relational goals, serving as the situated goal and as the general goal, should function differently. Moreover, only one type of general role along with the relational goal was examined in this research. However, multiple general roles may be salient in a single conflict situation, and other general goals such as identity goals may also be induced by role-related obligations. Future research could examine different general roles other than that of friend and incorporate other general goals, such as identity goals, into the model.

Moreover, all the confederates involved in the current study were female, which did not allow distinguishing any effect due to gender difference from the effects due to same- versus mixed-gender pairs because all the participants in a mixed-gender pairs were male and all those in a same-gender pairs were female. Future research needs to involve confederates of different genders so that both female and male participants' responses in the same-gender and mixed-gender discussion pairs could be assessed, which also allows disentangling the effect of gender from that of gender equivalence of the pairs.

Further, although the current model was developed within an interpersonal conflict context, the theory is expected to apply to inter-group and even international

conflicts, because groups and nations could also focus on different roles when encountering conflicts. Future research could test the model's propositions within these contexts.

Finally, the model needs to be tested across cultures. Obligation is proposed as a variable that allows the model to explain cultural differences in using conflict strategies. Therefore, to evaluate whether the model serves that purpose, the following two steps are needed: (1) testing the model in a different culture (e.g., East Asian cultures); and then (2) testing the model using cross-cultural data to allow cross-cultural comparison. The newly developed measure for obligation, in particular, needs to be validated across cultures. The interpretation of each item in the scale needs to be checked to achieve equivalence across cultures. Previous research has found that obligation may be reflected in different domains of behaviors (e.g., spending time vs. money) across cultures (Cai et al., 2007); therefore, assuming that the same method of operationalization for obligation works in both American and East Asian cultures would be precarious.

Theoretical and Methodological Contributions

The current dissertation contributes to communication research in four ways. First, the model proposed in the current dissertation was tested using two different kinds of methods: one used the recollection of actual conflict experiences by the participants and the other used a created conflict situation in which all the participants experienced the same conflict resolution task in the lab. The model was cross-validated with both methods. The laboratory experiment, in particular, contributed to the study of conflict by using a new experimental method in which a conflict was induced and both self and other's role behaviors were manipulated. This method allows researchers to observe

individuals' actual conflict behavior, especially the influence of the other's behavior on the focal individuals' conflict strategies. Most of the extraneous variables were controlled through this experimental design, which increased the internal validity of the study. Further, the model was tested using different ways of measuring goals. The hypotheses were tested across different samples, experimental methods, and different goal measures. Moreover, the method of developing the expectation-violation manipulation based on the actual expectations of participants was successful and could be used for other studies to induce expectation violation.

Second, the model linking enactment of the self role and responses to the other's role behaviors with conflict strategies provided a way to examine both the active and passive aspects of individuals' conflict behaviors. The effects of the enactment of self roles on the use of the conflict strategies reflect the intentional and pre-planned process of conflict interaction. In contrast, responding to the other's expectation-violation behaviors delineates the reactive process of the conflict interaction. The combination of the two types of behaviors provided a more complete picture of the process of conflict management, which allowed better prediction of the use of conflict strategies than models that focus on only the active or passive aspects of the conflict situation.

Third, using concepts such as general and situated roles and general and situated goal importance allows the current model to predict conflict behaviors across a variety of situations. Hage and Marwell (1968) argued that theory development should use general variables that could be applied across time and situations. Specific types of goals and roles may only be applied to certain conflict situations but not others (Dillard et al., 1989; Ohbuchi et al., 1999). In this dissertation, the relative importance of different types of

roles and goals predicted behaviors. Therefore, the current model is a general model that is not restricted to specific situations or conflict types.

Fourth, the proposed model focused on the communicative aspect of conflict by examining the interactive as well as the individual aspects of conflict management. Behaviors resulting from an individual's own preferences and his or her responses to the other party's behaviors were both used to predict the use of conflict strategies, taking into consideration the influence of the immediate situation and the behavioral context. The proposed model predicts that communicative behaviors result from both strategic choices and reactions in response to both the personal and interpersonal demands of the conflict situation. This focus on conflict strategies provided insight into the use of communication behaviors in conflict situations as compared to focusing only on general conflict styles.

Conclusion and Practical Implications

This dissertation addresses how, in a conflict situation, individuals understand their roles and the role of their conflict opponents. It also addresses how people enact different roles and how their responses to the other party's role enactment affect the strategies they choose to handle the conflict. A model was tested to delineate the cognitive and emotional processes through which the focal individual and the other party's role enactment affect the focal individual's conflict strategies. The model was first examined using the data based on participants' recall of a past conflict and their answers to questions that assessed behaviors. In the main study, the model was tested using the data from a lab experiment where a conflict was induced and participants' conflict behaviors were reported. The model was supported by both studies, but the

support was much stronger in the main study, which used the more rigorously designed laboratory experiment.

Obligation from the general role and embracement of the situational role were found to affect the use of conflict strategies through two separate processes. Obligation to fulfill others' needs and concerns was found to predict the use of both problem-solving and avoiding-the-issue conflict strategies through the mediating effect of relational-goal importance. Embracement of the situated role was found to directly predict the use of the problem-solving conflict strategy but indirectly predict the use of the dominating strategy through the mediating effect of situated-goal importance. The other party's expectation-violation behaviors caused anger, which further resulted in the use of the dominating and avoiding-the-person strategies. However, the main reason for these two relational-disruptive behaviors was individuals' direct reaction to the other's behavior, not the anger that these behaviors induced. In addition, the other's expectation violation changes the perceived goal importance as well as the emotion of the focal individual.

The roles approach is useful to provide guidance for understanding individuals' conflict behaviors. Why does someone who seems to be a friendly person become aggressive and dominant when handling conflicts? The proposed model suggests that the individual may be overtly embedded in the situated role and unable to see other roles and behavioral options. In other words, the individual fails to perceive social constraints that could prevent him or her from using confrontation to address the conflict issues. Two parties in a conflict may focus on different roles without realizing the difference and its influences on conflict management. Anger can result when the individual who took the role of a friend perceives a negative expectation violation from the other who took the

role of a group project member and just wanted to get his or her arguments across. The model suggests the possibility of altering one's conflict strategies and those of the other party by manipulating the salience of general roles and the perceived level of obligation. In short, realizing the role we are playing and that our conflict opponent plays is an important starting point for understanding and choosing appropriate strategies to facilitate effective conflict management.

Appendix A

Questionnaire of Pilot Study 1

(The "Friend" Version)

Date: _____

I. People play different roles in different situations. Some roles are ***general*** and remain valid across various situations. For example, you can be a friend of someone regardless of the situations you are in. Some roles are ***specific***; for example, you can be a negotiator only in situations that require negotiation. In many situations, people perceive both general and specific roles simultaneously. For example, you can be a friend and a group project member with another person at the same time.

Now, please recall a recent conflict situation you experienced with another person who is *your friend* (or *your ally*) within *an organizational setting, such as in class, at work, in a community, or within a student organization you are involved in.* The conflict should be a disagreement over certain ideas, plans, goals, or regarding some limited resources, such as a position, an object, customers, and so on (e.g., a disagreement during the process of completing a group project).

A. Please describe the conflict in as much detail as possible:

_____

_____

_____

_____

_____

_____

_____

_____

B. Please describe what you and *your friend* (or *your ally*) did to resolve the conflict?

_____

_____

C. Which of the following roles best describes the other party in the conflict? Check <u>only</u> one:

_____ **Friend** _____ **Ally**

D. How close is your relationship with this person (use the scale below)?
_____

Use a number from 0 (zero) on up to indicate the closeness of the relationship. Zero means your relationship with him/her is not close at all, and higher numbers represent greater level of closeness. If your relationship is **<u>moderately</u>** close, rate the relationship as 100; if your relationship is **<u>twice</u>** as close as a moderate level, rate the relationship as 200; if your relationship is **<u>half</u>** as close as a moderate level, rate the relationship as 50. Thus,

Not close at all = 0.
Moderate level of closeness = 100.
The greater your relational closeness, the higher the number should be.
There is no highest number: Use any number from zero on up.

E. Please read each of the following items carefully and rate each item in terms of your relationship with this person:

Use a number from 0 (zero) on up to indicate the extent to which you agree with the following statements for each role listed. Zero means you **<u>completely disagree</u>** with the statement for that specific role, and higher numbers represent greater agreement. If you **<u>moderately</u>** agree with the statement, rate the statement as 100; if you agree **<u>twice</u>** as much as a moderate level of agreement, rate the statement as 200; if you agree **<u>half</u>** as much as a moderate level of agreement, rate the statement as 50. Thus,

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I feel obligated to fulfill the needs and concerns of this person	
I feel obligated to maintain a good relationship with this person	
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	
I feel that I should always keep in mind that this person is my friend (or ally) in all situations.	

F. How severe is this conflict? _____

Not severe at all = 0.
Moderate level of severity = 100.
The greater severity of the conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

G. How important is this conflict to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

H. 1) To what extent that you have influence over this person? _____

No influence at all = 0.
Moderate level of influence = 100.
The greater your influence over him/her, the higher the number should be.
There is no highest number: Use any number from zero on up.

2) To what extent that this person has influence over you? _____ (Please use the same scale as above.)

I. To what extent that this person has greater influence over you than you over him/her? (Please use a number from negative infinity to positive infinity, e.g., "0" means you two have the same level of influence over each other, a positive number means this person has greater influence over you than you over him/her, whereas a negative number means you have greater influence over this person than he/she over you.)
So, your rating for this person's relative influence over you is _____.

J. To what extent did each of the following statements reflect how you handled the conflict situation? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I shied away from topics that are sources of disputes.	
I kept quiet about my views in order to avoid disagreements	
I steered clear of disagreeable situations	
I held my tongue rather than argued	
I went fifty-fifty to reach a settlement	
I gave in a little on my ideas when the other person also gave in	
I offered tradeoffs to reach solutions for the disagreement	
I blended my ideas with the other party to create new alternatives for resolving a conflict	
I avoided eye contact with this person after the disagreement occurred.	
I tried not to talk to this person during the task	
I refused to deal with this person about this disagreement.	

I talked to other person regarding the issue rather than dealing directly with the person I disagreed with.	
I argued insistently for my stance	
I asserted my opinion forcefully	
I insisted my position be accepted during the conflict	
I stood firm in my views during the conflict	

K. Other than being your friend or ally, what was the other person's *specific* role in this conflict situation (e.g., a group project member, costumer, teammate, salesperson)?

_____

L. Please indicate your *specific* role in this conflict situation (e.g., a group project member, salesperson, teammate, supervisor)?

_____

M. To what extent does each of the following statements describe your feeling during the conflict situation? Please use the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
It was important to me to convince this person to do what I wanted him or her to do	
I was very concerned about getting what I wanted in this conflict situation	
I really didn't care that much about whether I could get what I desired in this conflict	
It was not so important for me to get what I wanted in this conflict.	
I was not willing to risk possible damage to the relationship to get what I wanted	
Getting what I wanted was more important to me than preserving our relationships	
I didn't really care if I'd make the other mad or not	
It was very important for me to maintain a good relationship with this person when I handled the conflict	
I fully focused on my role as a _____ (what you mentioned above in question **L**) in the current conflict situation.	
I viewed the other person as a _____ (what you mentioned above in question **K**) totally in the conflict situation.	
I have input much effort into handling the conflict as a _____ (what you mentioned above in question **L**) in the conflict situation.	
I was fully embedded into the conflict situation.	
I did not expect the other person to behave like this (in a negative sense).	
The other person's ways of dealing with the conflict surprised me negatively.	
The other person's behavior in the conflict situation was not what an individual would	

do typically as a friend (or an ally).	
This person's behavior during the conflict negatively violated my expectation for him/her.	

N. What things did the person do or not do during the whole conflict situation that upset you?

1.
2.
3.
4.

O. To what extent did these behaviors you listed above upset you? _____

Not upset at all = 0.
Moderately upset = 100.
Greater number refers to greater level of being upset
There is no highest number: Use any number from zero on up

P. To what extent did these behaviors you listed above make you angry? _____

Not angry at all = 0.
Moderately angry = 100.
Greater number refers to greater level of being angry
There is no highest number: Use any number from zero on up

Q. To what extent did these behaviors you listed above make you feel annoyed?

_____

Not annoyed at all = 0.
Moderately annoyed = 100.
Greater number refers to greater level of being annoyed
There is no highest number: Use any number from zero on up

R. To what extent did these behaviors you listed above make you feel irritated?

_____

Not irritated at all = 0.
Moderately irritated = 100.
Greater number refers to greater level of being irritated
There is no highest number: Use any number from zero on up

1. My age is	**_____ years.**

2. I am: (Check which one applies):	
	Male
	Female

3. I am the citizen of	**(country).**

4. My native language is	

Check which one(s) apply:	**5. Please indicate your ethnicity**	**Specify ethnic background in categories checked**
	AFRICAN AMERICAN, AFRICAN, BLACK, ETC.	
	HISPANIC, LATINO, MEXICAN AMERICAN, CUBAN AMERICAN, PUERTO RICAN, ETC.	
	ASIAN/CHINESE/JAPANESE AMERICAN, PACIFIC ISLANDER, CHINESE, JAPANESE, KOREAN, ETC.	
	AMERICAN INDIAN, NATIVE AMERICAN	
	CENTRAL ASIAN, INDIAN, PAKISTANI, ETC.	
	ARAB, ARAB AMERICAN, ETC.	
	JEWISH	
	WHITE, CAUCASIAN, EUROPEAN AMERICAN	
	OTHER (PLEASE SPECIFY):	

6. What year are you at the university? (check one)	
	Freshman
	Sophomore
	Junior
	Senior
	Master's
	Doctoral
	Other (Please specify):

7. What is your major at the university?	

Thank you for taking time to participate in this study!

Appendix A (Continued)

(The first page of the "Acquaintance" version -- The rest of the questionnaire was the same as in the "Friend" version)

I. People play different roles in different situations. Some roles are ***general*** and remain valid across various situations. For example, you can be an acquaintance of someone regardless of the situations you are in. Some roles are ***specific***; for example, you can be a negotiator only in situations that require negotiation. In many situations, people perceive both general and specific roles simultaneously. For example, you can be an acquaintance and a group project member with another person at the same time.

Now, please recall a recent conflict situation you experienced with another person who is *an acquaintance of yours* BUT *not your friend* within *an organizational setting, such as in class, at work, in a community, or within a student organization you are involved in.* The conflict should be a disagreement over certain ideas, plans, goals, or regarding some limited resources, such as a position, an object, customers, and so on (e.g., a disagreement during the process of completing a group project).

A. Please describe the conflict in as much detail as possible:

_____

_____

_____

_____

_____

_____

_____

_____

B. Please describe what you and *your acquaintance* did to resolve the conflict?

_____

_____

C. Since when have you met this person? _____

Appendix B

Descriptives for Indicators in Pilot Study 1 Before Transformation

Indicators	Mean	SD	Skewness	Standard Error	Kurtosis	Standard Error
Obligation 1	71.48	65.69	2.562	.150	12.954	.299
Obligation 2	108.92	258.62	13.192	.150	196.147	.298
Obligation 3	82.62	102.00	5.844	.150	48.718	.298
Obligation 4	101.06	117.09	4.142	.150	26.715	.298
Avoid the topic 1	59.08	74.57	2.496	.150	9.959	.298
Avoid the topic 2	43.57	64.72	3.484	.150	19.023	.298
Avoid the topic 3	59.77	91.66	5.283	.150	44.927	.298
Avoid the topic 4	96.80	620.14	15.567	.150	248.999	.298
Problem-Solving 1	84.05	95.54	4.109	.150	32.829	.299
Problem-Solving 2	80.12	73.50	2.304	.150	9.339	.298
Problem-Solving 3	78.40	66.46	1.252	.150	3.171	.300
Problem-Solving 4	92.35	94.71	4.014	.150	32.324	.298
Avoid the Person 1	28.75	61.42	4.363	.150	26.805	.298
Avoid the Person 2	27.74	74.00	9.084	.150	113.568	.298
Avoid the Person 3	22.50	72.01	9.998	.150	130.792	.300
Avoid the Person 4	460.99	6168.81	16.049	.150	259.673	.298
Dominating 1	823.18	8665.41	11.443	.150	129.944	.298
Dominating 2	449.47	6139.14	16.274	.150	264.889	.298
Dominating 3	64.48	89.56	5.225	.150	46.745	.298
Dominating 4	4274.39	61822.27	16.022	.150	258.765	.299
Situated Goal 1	146.42	618.43	15.460	.150	246.728	.298
Situated Goal 2	144.17	620.38	15.334	.150	243.847	.298
Situated Goal 3 (R)	50.19	104.14	6.836	.150	57.021	.298

Indicators	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Situated Goal 4 (R)	81.55	617.59	15.823	.150	254.754	.298
Relational Goal 1	449.58	6139.49	16.271	.150	264.827	.298
Relational Goal 2 (R)	92.70	616.69	15.837	.150	255.098	.298
Relational Goal 3 (R)	3867.81	61658.64	16.217	.150	262.999	.299
Relational Goal 4	477.28	6138.24	16.267	.150	264.747	.298
Role-Embracement 1	4000.77	62129.10	16.093	.151	258.986	.302
Role-Embracement 2	122.78	126.05	4.398	.151	26.479	.302
Role-Embracement 3	3986.51	62129.38	16.093	.151	258.996	.302
Role-Embracement 4	3938.50	61775.73	16.184	.150	261.947	.300
Expectation Violation 1	164.10	919.79	9.895	.150	101.278	.298
Expectation Violation 2	96.87	618.36	15.693	.150	251.905	.298
Expectation Violation 3	478.82	6167.90	16.047	.150	259.638	.298
Expectation Violation 4	3876.27	61426.31	16.276	.150	264.945	.298
Anger 1	4007.72	61424.81	16.271	.150	264.830	.298
Anger 2	3997.01	61425.48	16.271	.150	264.830	.298
Anger 3	4011.46	61422.41	16.273	.150	264.868	.298
Anger 4	3977.33	61423.04	16.274	.150	264.894	.298

Appendix C

λs Used for Indicators and Descriptives in Pilot Study 1 After Transformation Based on Data Trimmed to the 98% Percentile

Indicators	λ	Mean	SD	Skewness	Standard Error	Kurtosis	Standard Error
Obligation 1	.45	5.89	3.21	-.341	.150	.237	.299
Obligation 2	.45	6.80	3.55	.110	.150	1.489	.298
Obligation 3	.45	6.25	3.38	.160	.150	1.940	.298
Obligation 4	.45	6.73	3.88	.054	.150	.671	.298
Avoid the topic 1	.37	3.28	2.59	-.036	.150	-1.137	.298
Avoid the topic 2	.37	2.71	2.47	.221	.150	-1.056	.298
Avoid the topic 3	.37	3.26	2.59	.072	.150	-.739	.298
Avoid the topic 4	.37	3.15	2.69	.398	.150	-.095	.298
Problem-Solving 1	.47	6.54	4.41	-.015	.150	-.072	.299
Problem-Solving 2	.47	6.78	3.79	-.255	.150	.244	.298
Problem-Solving 3	.47	6.62	3.90	-.454	.150	-.506	.300
Problem-Solving 4	.47	7.16	4.14	-.145	.150	.396	.298
Avoid the Person 1	.1	.58	.73	.473	.150	-1.727	.298
Avoid the Person 2	.1	.57	.72	.524	.150	-1.674	.298
Avoid the Person 3	.1	.44	.68	.919	.150	-1.095	.300
Avoid the Person 4	.1	.81	.77	-.071	.150	-1.931	.298
Dominating 1	.4	4.35	3.03	.053	.150	.228	.298
Dominating 2	.4	4.49	2.91	-.090	.150	.156	.298
Dominating 3	.4	3.99	2.98	.014	.150	-.548	.298
Dominating 4	.4	5.77	2.70	.146	.150	2.335	.299
Situated Goal 1	.37	5.03	2.19	-.434	.150	1.797	.298

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Situated Goal 2	.37	4.92	2.25	-.320	.150	1.712	.298
Situated Goal 3 (R)	.37	2.79	2.58	.401	.150	-.147	.298
Situated Goal 4 (R)	.37	2.65	2.58	.543	.150	-.020	.298
Relational Goal 1	.38	3.76	2.92	.123	.150	-.365	.298
Relational Goal 2 (R)	.38	3.22	2.82	.238	.150	-.605	.298
Relational Goal 3 (R)	.38	3.95	2.55	-.174	.150	.159	.299
Relational Goal 4	.38	4.77	2.70	-.037	.150	.683	.298
Role-Embracement 1	.41	6.60	2.59	.111	.151	3.183	.302
Role-Embracement 2	.41	6.47	2.60	-.159	.151	2.666	.302
Role-Embracement 3	.41	6.50	2.61	.214	.151	3.534	.302
Role-Embracement 4	.41	5.60	2.57	-.263	.150	2.519	.300
Expectation Violation 1	.33	2.77	2.43	.251	.150	-.696	.298
Expectation Violation 2	.33	2.58	2.27	.163	.150	-.977	.298
Expectation Violation 3	.33	2.76	2.29	.118	.150	-.745	.298
Expectation Violation 4	.33	2.72	2.33	.201	.150	-.734	.298
Anger 1	.39	5.71	2.41	.240	.150	2.997	.298
Anger 2	.39	5.16	2.87	-.021	.150	.814	.298
Anger 3	.39	6.32	2.37	.028	.150	2.847	.298
Anger 4	.39	6.10	2.49	-.046	.150	2.276	.298

Appendix D

λs Used for Indicators and Descriptives in Pilot Study 1 After Transformation Based on Data Trimmed to the 95% Percentile

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Obligation 1	.7	17.67	11.18	.074	.150	-.495	.299
Obligation 2	.7	17.67	11.18	.074	.150	-.495	.298
Obligation 3	.7	21.04	12.38	-.057	.150	-.801	.298
Obligation 4	.7	18.84	11.63	.099	.150	-.550	.298
Situated Goal 1	.68	20.88	10.59	-.280	.150	-.324	.298
Situated Goal 2	.68	20.70	11.66	.204	.150	.065	.298
Situated Goal 3 (R)	.68	-10.01	9.76	-.376	.150	-1.230	.298
Situated Goal 4 (R)	.68	-9.34	9.71	-.570	.150	-.935	.298
Relational Goal 1	.8	24.92	22.51	.478	.150	-.819	.298
Relational Goal 2 (R)	.8	3.34	1.74	-.572	.150	.356	.298
Relational Goal 3 (R)	.8	-20.62	21.10	-.710	.150	-.441	.299
Relational Goal 4	.8	-25.08	19.66	-.397	.150	-.462	.298
Avoid the topic 1	.46	4.80	3.90	.015	.150	-1.342	.298
Avoid the topic 2	.46	3.86	3.55	.165	.150	-1.475	.298
Avoid the topic 3	.46	4.73	3.81	.000	.150	-1.320	.298
Avoid the topic 4	.46	4.51	3.85	.169	.150	-1.249	.298
Problem-Solving 1	.71	19.62	14.44	.086	.150	-1.040	.299
Problem-Solving 2	.71	19.82	12.42	-.007	.150	-.591	.298
Problem-Solving 3	.71	19.77	13.17	-.011	.150	-.795	.300
Problem-Solving 4	.71	21.50	13.81	-.030	.150	-.892	.298
Avoid the Person 1	.1	.58	.72	.459	.150	-1.762	.298
Avoid the Person 2	.1	.56	.72	.512	.150	-1.706	.298

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Avoid the Person 3	.1	.44	.67	.907	.150	-1.141	.300
Avoid the Person 4	.1	.80	.76	-.086	.150	-1.954	.298
Dominating 1	.65	13.09	9.84	.098	.150	-.942	.298
Dominating 2	.65	13.53	9.69	.061	.150	-.901	.298
Dominating 3	.65	11.93	9.92	.291	.150	-.935	.298
Dominating 4	.65	17.89	9.16	-.265	.150	-.511	.299
Role-Embracement 1	.6	20.47	9.37	.071	.151	.318	.302
Role-Embracement 2	.6	20.11	9.52	.012	.151	.201	.302
Role-Embracement 3	.6	20.00	9.23	.076	.151	.344	.302
Role-Embracement 4	.6	16.36	8.31	-.248	.150	-.036	.300
Expectation Violation 1	.6	4.19	3.62	.007	.150	-1.542	.298
Expectation Violation 2	.6	3.93	3.50	.103	.150	-1.478	.298
Expectation Violation 3	.6	4.19	3.48	-.018	.150	-1.417	.298
Expectation Violation 4	.6	4.12	3.53	.042	.150	-1.457	.298
Anger 1	.59	14.20	6.52	-.140	.150	.228	.298
Anger 2	.59	12.90	7.85	-.030	.150	-.583	.298
Anger 3	.59	16.74	7.56	.325	.150	.998	.298
Anger 4	.59	15.72	7.11	-.270	.150	-.020	.298

Appendix E

Instruction for Participants Regarding the Evaluation Task with Obligation Manipulation

(Pilot Study 2)

[High obligation manipulation version]

Special Academic Program Scholarship

Candidate Information Sheet for Student Evaluators

Instructions (please read carefully!):

The committee for Special Academic Programs at University of Maryland is finalizing its recommendation regarding the allocation of scholarship this year. There are 4 finalists. The one with the greatest potential to be successful in college will be awarded the scholarship. The faculty committee members are in the process of making its recommendation. However, the university also wants opinions from undergraduate students currently attending UMCP, believing that current students provide critical insights for evaluating the candidates' extracurricular records on their potential to be successful students at UMCP.

On the next page, you will read a summary put together by the faculty committee from the candidates' application files. The four candidates have very similar academic qualifications (e.g., GPA, SAT scores) but different extracurricular experiences. Please consider the candidates' information carefully and rank the candidates from the most qualified (i.e., the one who you think should get the scholarship) to the least qualified. Then discuss your ranking with your friend and come up with a ranking that you agree upon together. Your views will be combined with the faculty views to help determine the scholarship award. All responses will be anonymous and confidential.

To encourage your participation and discussion, we would like to implement the following rule for your discussion. **If the ranking from you and your friend is the same as the one you came up with individually, you will earn 1 MORE EXTRA CREDIT POINT(or the points equivalent to attending another 30-minute study)!!**

Candidate Information:
Now, please read the following descriptions of the candidates, and (1) come up a ranking of the candidates based on their qualification for the scholarship and (2) discuss your ranking with your friend and try to reach agreement. (Please note that for confidentiality, the names of the candidates will not be revealed.)

Candidate A is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to excelling in his studies, **Candidate A** is involved in many activities both within and outside of school. In school, he is captain of his high

school lacrosse team and member of the debate team. He has served on student government boards all four years of high school. This year his classmates voted him vice president of SGA (student government association) two years in a row. His freshman year he served on the class council, and his sophomore year he was his class treasurer. **Candidate A** enjoys combing sports, debate and student government. He claims that these three activities have helped him with his critical thinking, arguing, and leadership skills. Outside of school, **Candidate A** volunteers for his community's Big Brother/Big Sister program. In addition to serving as a mentor to a child in the community, **Candidate A** is also active in his church's youth group. This group serves the community by getting involved in projects such as feeding the homeless, visiting nursing homes, and cleaning up the environment. **Candidate A** describes himself as confident and motivated. He is eager to start college and meet the challenges that lay ahead.

Candidate B is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of his school's soccer team and has helped the team reach the state championships three years in a row. In the spring, he volunteers as an assistant coach for one of his neighborhood's little league baseball teams. **Candidate B** credits sports with teaching him the value of hard work and determination. He believes that through hard work and determination, he can fulfill all of his goals. This philosophy has helped him succeed in the classroom as well as on the playing field. Last month he submitted an article he wrote for his school newspaper to a statewide competition and took home first place. **Candidate B** describes himself as outgoing and intelligent. He is co-captain of the math team, head of the yearbook staff, involved in student government, and loves to read. He has found a way of sharing his love for reading, and learning, with others. He volunteers once a week at a local nursing home reading to elderly patients. **Candidate B** considers himself a well rounded individual who manages his time well. He is very excited about starting college and meeting the challenges that await him.

Candidate C is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of the school's debate team, and has won several debate and public speaking competitions. **Candidate C** is also active in school politics. He is currently the President of the student government association (SGA). His junior year he served as Vice President of SGA and his freshman and sophomore year he sat on his class council. **Candidate C** is co-captain of his high school's varsity soccer team. He credits sports with teaching him the value of hard work and determination. Outside of school, **Candidate C** is active in the community. Each year he volunteers for his state's Special Olympics program. Through the special Olympics, he serves as an assistant soccer coach for a team of mentally retarded children. **Candidate C** also volunteers as a peer tutor at the local middle school. **Candidate C** enjoys children of all ages and is looking forward to returning to his summer job as a camp counselor. This will be his second year working for the camp. **Candidate C** considers himself confident, motivated and well rounded. He is excited about starting his college life and is determined to succeed in college.

Candidate D is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. While he hasn't participated in sports clubs at school, he is an avid skier and has recently become proficient at snow boarding. He also enjoys skateboarding. He has been a skateboarder since the age of 10 and has won some local skateboarding competitions. In the summer he likes to play tennis and mountain bike. **Candidate D** describes himself as a shy individual who likes to express himself through art and poetry. In keeping with his artistic nature, he is a proficient musician and plays the drums and both the acoustic and electric guitar. Recently he took his love for poetry and music and started a rock band with a few close friends. They entered their high school talent show and won the first place. When not at school or enjoying his extracurricular activities, **Candidate D** can be found at his part time job. He works as a busboy in a local restaurant. This is the third, and favorite, job he has had since entering high school. **Candidate D** considers himself well rounded and is very confident to be successful in college.

Your ranking for the four candidates:

1. _____ (the candidate who's most likely to be successful);

2. _____

3. _____

4. _____ (the candidate who's least likely to be successful).

You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your friend, please note: To keep the group discussion as natural as possible, please consider your discussion partner as your **FRIEND**. That is, you are discussing the candidates with your friend and keep in mind that this person is your **FRIEND** throughout the discussion. Being a friend involves fulfilling the other's needs and concerns the best you can and keeping the relationship with your friend good and solid.

To help you take this perspective more naturally, please write down in the boxes below what obligations friends have for each other:

1.
2.
3.

Thank you for your answers! Now, you can start your discussion with your friend and come up with a ranking that both of you agree upon.

Appendix E (Continued)

[Low obligation manipulation version]

(*Note:* This version differs from the high obligation manipulation version only on the last page. Please see below.)

You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your friend, please note: To keep the group discussion as effective as possible, please keep in mind that although you and your discussion partner might have met before, your concern for the other party's needs should not interfere with your evaluation. For you, the concern for fulfilling the needs of the other party should not be mixed with the requirements of the task at hand.

To help you take this perspective more naturally, please write down in the boxes below what obligations an objective judge has for his position:

1.
2.
3.
4.

Thank you for your answers! Now, you can start your discussion with your friend and come up with a ranking that both of you agree upon.

Appendix F

Improved Instruction for Participants Regarding the Evaluation Task with Obligation Manipulation (Pilot Study 2)

[High obligation manipulation version]

Special Academic Program Scholarship

Candidate Information Sheet for Student Evaluators

Instructions (please read carefully!):
The committee for Special Academic Programs at University of Maryland is finalizing its recommendation regarding the allocation of scholarship this year. There are 4 finalists. The one with the greatest potential to be successful in college will be awarded the scholarship. The faculty committee members are in the process of making its recommendation. However, the university also wants opinions from undergraduate students currently attending UMCP, believing that current students provide critical insights for evaluating the candidates' extracurricular records on their potential to be successful students at UMCP.

On the next page, you will read a summary put together by the faculty committee from the candidates' application files. The four candidates have very similar academic qualifications (e.g., GPA, SAT scores) but different extracurricular experiences. Please consider the candidates' information carefully and rank the candidates from the most qualified (i.e., the one who you think should get the scholarship) to the least qualified. Then discuss your ranking with your friend and come up with a ranking that you agree upon together. Your views will be combined with the faculty views to help determine the scholarship award. All responses will be anonymous and confidential.

To encourage your participation and discussion, we would like to implement the following rule for your discussion. **If the ranking from you and your friend is the same as the one you came up with individually, you will earn 1 MORE EXTRA CREDIT POINT(or the points equivalent to attending another 30-minute study)!!**

Candidate Information:

Now, please read the following descriptions of the candidates, and (1) come up a ranking of the candidates based on their qualification for the scholarship and (2) discuss your ranking with your friend and try to reach agreement. (Please note that for confidentiality, the names of the candidates will not be revealed.)

Candidate A is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to excelling in his studies, **Candidate A** is involved in many activities both within and outside of school. In school, he is captain of his high

school lacrosse team and member of the debate team. He has served on student government boards all four years of high school. This year his classmates voted him vice president of SGA (student government association) two years in a row. His freshman year he served on the class council, and his sophomore year he was his class treasurer. **Candidate A** enjoys combing sports, debate and student government. He claims that these three activities have helped him with his critical thinking, arguing, and leadership skills. Outside of school, **Candidate A** volunteers for his community's Big Brother/Big Sister program. In addition to serving as a mentor to a child in the community, **Candidate A** is also active in his community's youth group. This group serves the community by getting involved in projects such as feeding the homeless, visiting nursing homes, and cleaning up the environment. **Candidate A** describes himself as confident and motivated. He is eager to start college and meet the challenges that lay ahead.

Candidate B is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of his school's soccer team and has helped the team reach the state championships three years in a row. In the spring, he volunteers as an assistant coach for one of his neighborhood's little league baseball teams. **Candidate B** credits sports with teaching him the value of hard work and determination. He believes that through hard work and determination, he can fulfill all of his goals. This philosophy has helped him succeed in the classroom as well as on the playing field. Last month he submitted an article he wrote for his school newspaper to a statewide competition and took home first place. **Candidate B** describes himself as outgoing and intelligent. He is co-captain of the math team, head of the yearbook staff, involved in student government, and loves to read. He has found a way of sharing his love for reading, and learning, with others. He volunteers once a week at a local nursing home reading to elderly patients. **Candidate B** considers himself a well rounded individual who manages his time well. He is very excited about starting college and meeting the challenges that await him.

Candidate C is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. He is captain of the school's debate team, and has won several debate and public speaking competitions. **Candidate C** is also active in school politics. He is currently the President of the student government association (SGA). His junior year he served as Vice President of SGA and his freshman and sophomore year he sat on his class council. **Candidate C** is co-captain of his high school's varsity soccer team. He credits sports with teaching him the value of hard work and determination. Outside of school, **Candidate C** is active in the community. Each year he volunteers for his state's Special Olympics program. Through the special Olympics, he serves as an assistant soccer coach for a team of mentally retarded children. **Candidate C** also volunteers as a peer tutor at the local middle school. **Candidate C** enjoys children of all ages and is looking forward to returning to his summer job as a camp counselor. This will be his second year working for the camp. **Candidate C** considers himself confident, motivated and well rounded. He is excited about starting his college life and is determined to succeed in college.

Candidate D is a high school senior from Maryland. He has an impressive academic record and SAT scores. In addition to his academic achievements, he enjoys many activities. While he hasn't participated in sports clubs at school, he is an avid skier and has recently become proficient at snow boarding. He also enjoys skateboarding. He has been a skateboarder since the age of 10 and has won some local skateboarding competitions. In the summer he likes to play tennis and mountain bike. **Candidate D** describes himself as a shy individual who likes to express himself through art and poetry. In keeping with his artistic nature, he is a proficient musician and plays the drums and both the acoustic and electric guitar. Recently he took his love for poetry and music and started a rock band with a few close friends. They entered their high school talent show and won the first place. When not at school or enjoying his extracurricular activities, **Candidate D** can be found at his part time job. He works as a busboy in a local restaurant. This is the third, and favorite, job he has had since entering high school. **Candidate D** considers himself well rounded and is very confident to be successful in college.

Your ranking for the four candidates:

1. _____ (the candidate who's most likely to be successful);

2. _____

3. _____

4. _____ (the candidate who's least likely to be successful).

You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your friend, please note: To keep the group discussion as natural as possible, please consider your discussion partner as your **FRIEND**. That is, you are discussing the candidates with your friend and keep in mind that this person is your **FRIEND** throughout the discussion. Being a friend involves fulfilling the other's needs and concerns the best you can and keeping the relationship with your friend good and solid.

To help you take this perspective more naturally, please write down in the boxes below what obligations friends have for each other:

1.
2.
3.

Thank you for your answers! Now, you can start your discussion with your friend and

come up with a ranking that both of you agree upon.

Appendix F (Continued)

[Low obligation manipulation version]

(*Note:* This version differs from the high obligation manipulation version only on the last page. Please see below.)

You have finished reading the candidates' information and have come up with your own ranking for the candidates. Before you start your discussion with your friend, please note: To keep the group discussion as effective as possible, please keep in mind that although you and your discussion partner might have met before, your concern for the other party's needs should not interfere with your evaluation. For you, the concern for fulfilling the needs of the other party should not be mixed with the requirements of the task at hand.

To help you take this perspective more naturally, please write down in the boxes below what obligations an objective judge has for his position:

1.
2.
3.
4.

Thank you for your answers! Now, you can start your discussion with your friend and come up with a ranking that both of you agree upon.

Appendix G

Questionnaire Measuring Obligation and Goals in Pilot Study 2

[The "Friend" role version]:

University of Maryland **Date*:**_____

Sorry for the interruption! The University believes that thoughts and behaviors involved in the evaluation process provide additional information regarding why certain recommendations are made. Please take some minutes to answer the following questions regarding your thoughts in the discussion before you proceed. Your answers will be kept anonymous and might be used to evaluate the recommendation you come up with. Thank you!

I. Please read each of the following items carefully and rate each item in terms of your agreement with it using the following scale:

Use a number from 0 (zero) on up to indicate the extent to which you agree with the following statements for each role listed. Zero means you **completely disagree** with the statement for that specific role, and higher numbers represent greater agreement. If you **moderately** agree with the statement, rate the statement as 100; if you agree **twice** as much as a moderate level of agreement, rate the statement as 200; if you agree **half** as much as a moderate level of agreement, rate the statement as 50. Thus,

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I am very concerned about getting what I want in this discussion.	
I care very much about whether I can get what I desire in this discussion.	
It is really important for me to get what I want in this discussion.	
I want to try my best to convince this person.	
I am not willing to risk possible damage to the relationship to get what I want in this task.	
It is very important for me to maintain a good relationship with this person when I handle our disagreements (if any).	
It is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this discussion.	
I need to be careful not making the other person mad.	

II. Now, please help us understand your view of your discussion partner. Please note that your discussion partner is your FRIEND. Read each of the following items carefully and rate each item in terms of your thoughts regarding this person AS A FRIEND:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I feel obligated to fulfill the needs and concerns of this person	
I feel obligated to maintain a good relationship with this person	
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	
I feel that I should always keep in mind that this person is my friend in all situations.	

1. My age is	**_____ years.**

2. I am: (Check which one applies):	
	Male
	Female

3. I am the citizen of	**_____ (country).**

4. My native language is	

Check which one(s) apply:	**5. Please indicate your ethnicity**	**Specify ethnic background in categories checked**
	AFRICAN AMERICAN, AFRICAN, BLACK, ETC.	
	HISPANIC, LATINO, MEXICAN AMERICAN, CUBAN AMERICAN, PUERTO RICAN, ETC.	
	ASIAN/CHINESE/JAPANESE AMERICAN, PACIFIC ISLANDER, CHINESE, JAPANESE, KOREAN, ETC.	
	AMERICAN INDIAN, NATIVE AMERICAN	
	CENTRAL ASIAN, INDIAN, PAKISTANI, ETC.	
	ARAB, ARAB AMERICAN, ETC.	
	JEWISH	
	WHITE, CAUCASIAN, EUROPEAN AMERICAN	

	OTHER (PLEASE SPECIFY):	

6. What year are you at the university? (check one)	
	Freshman
	Sophomore
	Junior
	Senior
	Master's
	Doctoral
	Other (Please specify):

7. What is your major in college?	

Thank you for taking time to participate in this study!

Appendix G (Continued)

[The "Student Evalutor" role version]:

University of Maryland **Date*:_____**

Sorry for the interruption! The University believes that thoughts and behaviors involved in the evaluation process provide additional information regarding why certain recommendations are made. Please take some minutes to answer the following questions regarding your thoughts in the discussion before you proceed. Your answers will be kept anonymous and might be used to evaluate the recommendation you come up with. Thank you!

I. Please read each of the following items carefully and rate each item in terms of your agreement with it using the following scale:

Use a number from 0 (zero) on up to indicate the extent to which you agree with the following statements for each role listed. Zero means you **completely disagree** with the statement for that specific role, and higher numbers represent greater agreement. If you **moderately** agree with the statement, rate the statement as 100; if you agree **twice** as much as a moderate level of agreement, rate the statement as 200; if you agree **half** as much as a moderate level of agreement, rate the statement as 50. Thus,

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I am very concerned about getting what I want in this discussion.	
I care very much about whether I can get what I desire in this discussion.	
It is really important for me to get what I want in this discussion.	
I want to try my best to convince this person.	
I am not willing to risk possible damage to the relationship to get what I want in this task.	
It is very important for me to maintain a good relationship with this person when I handle our disagreements (if any).	
It is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this discussion.	
I need to be careful not making the other person mad.	

II. Now, please help us understand your view of your discussion partner. Read each of the following items carefully and rate each item in terms of your thoughts regarding this person as a student judge:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I feel obligated to fulfill the needs and concerns of this person	
I feel obligated to maintain a good relationship with this person	
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	
I feel that I should always keep in mind that this person is my friend in all situations.	

1. My age is	**_____ years.**

2. I am: (Check which one applies):	
	Male
	Female

3. I am the citizen of	**_____ (country).**

4. My native language is	

Check which one(s) apply:	**5. Please indicate your ethnicity**	**Specify ethnic background in categories checked**
	AFRICAN AMERICAN, AFRICAN, BLACK, ETC.	
	HISPANIC, LATINO, MEXICAN AMERICAN, CUBAN AMERICAN, PUERTO RICAN, ETC.	
	ASIAN/CHINESE/JAPANESE AMERICAN, PACIFIC ISLANDER, CHINESE, JAPANESE, KOREAN, ETC.	
	AMERICAN INDIAN, NATIVE AMERICAN	
	CENTRAL ASIAN, INDIAN, PAKISTANI, ETC.	
	ARAB, ARAB AMERICAN, ETC.	
	JEWISH	
	WHITE, CAUCASIAN, EUROPEAN AMERICAN	
	OTHER (PLEASE SPECIFY):	

6. What year are you at the university? (check one)	
	Freshman
	Sophomore
	Junior
	Senior
	Master's
	Doctoral
	Other (Please specify):

7. What is your major in college?	

Thank you for taking time to participate in this study!

Appendix H

Descriptives of Indicators Before Transformation in Pilot Study 2

Indicators	Mean	SD	Skewness	Standard Error	Kurtosis	Standard Error
Obligation 1	54.38	51.38	.32	.564	-1.25	1.09
Obligation 2	87.50	69.52	.51	.564	-.802	1.09
Obligation 3	83.13	37.72	.62	.564	-1.01	1.09
Obligation 4	110.94	134.46	1.89	.564	3.92	1.09

λs Used for Indicator Transformation and Descriptives in Pilot Study 2 After Transformation

Indicators	λ	Mean	SD	Skewness	Standard Error	Kurtosis	Standard
Obligation 1	.824	32.68	18.26	.084	.365	.161	.717
Obligation 2	.824	39.21	21.15	.001	.365	.241	.717
Obligation 3	.824	42.56	17.47	.078	.365	.208	.717
Obligation 4	.824	44.36	23. 70	.002	.365	-.746	.717

Appendix I

Categories of Entries for Obligation of the Friend Role Listed by Participants

(Pilot Study 2)

Category	Code	Entries	Frequency
Mutual care, support, and sacrifices	2	Support Make sacrifices Be thoughtful Help Selflessness Help when in need	6
Be honest	8	Trustworthyness Honest Tell the truth Be honest Be honest	5
Be nice and courteous	9	Care about each other's feelings Be polite Courteous Care for each other, nice Nice	5
Listen	3	Listen Listening Patient Listen carefully	4
Mutual respect, being respectful	5	Be respectful Respect each other Respect Respect each others perspectives	4
Open-mind	4	Understand each others ideas Open mind Open-mindedness	2
Mutual trust	7	Trust Trust one another	2

Appendix I (Continued)

Category	Code	Entries	Frequency
Dependency and relationship maintenance	1	Dependency	2
		Maintain future, long term relationship	
Keep their word	6	Keep their word	1

Appendix J

Categories of Entries for Obligation of the Student Evaluator Role Listed by Participants

(Pilot Study 2)

Category	Code	Entries	Frequency
Open-minded and not biased to particular activities	2	To keep an open mind about the process	7
		Consider the individual qualities of each candidate	
		Do not compare the candidates to each other	
		Do not create any biases towards the candidates' activities	
		Carefully evaluate each candidate	
		Open-minded to all backgrounds and activities	
		Thoughtful to what they have done, its significance, what it means	
Being fair	1	To give the most qualified student the opportunity to join the university	6
		Distinguish between more accomplished and harder tasks and volunteer work	
		Give everyone fair opportunity	
		Make sure consider the task from all angles	
		Fairly	
		To judge each candidate fairy	
Not being arbitrary and being persuasive.	4	To make sure I give a good say who I think deserves it most	5
		Don't be arbitrary	
		Persuade discussion partner	
		Prove my ranking is better	
		Negotiate points	
Stick to the standard	6	Stick to values	5
		Based upon credentials	
		Levels of success as primary focus	
		I want my school to enroll qualified students	
		I want the scholarship to go to the right person	

Appendix J (Continued)

Category	Code	Entries	Frequency
Making effort in task completion	5	I want to help the school make the right decision I want to complete this task Experience with the scholarship process	3
Be honest	3	To be honest about why I made my choices Honest	2
Qualification as an evaluator	7	Opinion as a student here To use my best judgment about who will have the most success	2

Appendix K

Questionnaire after the Discussion in Pilot Study 3

University of Maryland **Date: _____**

Thank you for participating in the evaluation task! Now, please take some time to answer the following questions to help us understand your experience in the discussion just now. The information you are providing may help us obtain answers for later research purpose. Your answers will be kept anonymous and will not be connected to the evaluation task. Thank you!

A. To what extent did your proposed rankings disagree with that of your discussion partner in the discussion? _____

Use a number from 0 (zero) on up to indicate the extent to which your opinions disagree. Zero means both of you **did not have disagreement at all in the discussion**, and higher numbers represent greater level of disagreement. If you perceived **moderate level of disagreement**, rate 100; if you perceived **twice** as much as a moderate level of disagreement, rate 200; if you agree **half** as much as a moderate level of disagreement, rate 50. Thus,

No disagreement at all = 0.
Moderate level of disagreement = 100.
The greater the level of disagreement, the higher the number should be.
There is no highest number: Use any number from zero on up.

B. How conflictual were your ideas and those of your discussion partner during the discussion? _____

No conflict at all = 0.
Moderate level of conflict = 100.
The greater the level of conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

C. How severe was the conflict? _____

Not severe at all = 0.
Moderate level of severity = 100.
The greater severity of the conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

D. How important was the issue in conflict to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

E. How important was the outcome of the discussion to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

F. How severe was the outcome of your disagreement to you? _____

Not severe at all = 0.
Moderate level of severity = 100.
The greater severity of the conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

G. To what extent did each of the following statements reflect how you handled the conflictual ideas with your friend in the discussion? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I shied away from topics that are sources of disputes.	
I kept quiet about my views in order to avoid disagreements	
I steered clear of disagreeable situations	
I held my tongue rather than argued	
I went fifty-fifty to reach a settlement	
I gave in a little on my ideas when the other person also gave in	
I offered tradeoffs to reach solutions for the disagreement	
I blended my ideas with the other party to create new alternatives for resolving a conflict	
I avoided eye contact with this person after the disagreement occurred.	
I felt reluctant to talk to this person during the task	
I refused to deal with this person about this disagreement.	
I would rather talk to other person regarding the disagreement than dealing directly with this person.	
I argued insistently for my stance	
I asserted my opinion forcefully	
I insisted my position be accepted during the conflict	
I stood firm in my views during the conflict	

H. Now, please try to recall your thoughts during the discussion just now. To what extent did each of the following statements reflect your experience when handling

the conflictual ideas with the other person in the discussion? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I was very concerned about getting what I wanted in the discussion.	
I cared very much about whether I could get what I desired in the discussion.	
It was really important for me to get what I wanted in the discussion.	
I wanted to try my best to convince this person.	
I was not willing to risk possible damage to the relationship to get what I wanted in the task.	
It was very important for me to maintain a good relationship with this person when I handled the conflict/disagreement (if any).	
It was more important for me to maintain a harmonious relationship with this person when I handled our disagreement (if any) than getting what I wanted in this discussion.	
I needed to be careful not making the other person mad.	
I have input much effort into the discussion as a student evaluator.	
I was fully engaged in my role as a student evaluator in this evaluation task.	
I was fully attentive to the evaluation task.	
Nothing distracted me from being a student evaluator in this task.	
I did not expect the other person to behave like the way he/she did (in a negative sense).	
The other person's ways of dealing with our discussion surprised me negatively.	
The other person's behavior in the discussion was not what an individual would do typically as a friend	
The other person's behavior in the discussion was not what an individual would do typically as an objective judge/evaluator.	
This person's behavior during the discussion negatively violated my expectation for him/her.	
I saw myself more as a friend of him/her than a student evaluator in the discussion.	
During the discussion of our disagreement, I talked to the other person as a friend.	
During the discussion, the thought that I was also a friend of this person a	

part from being a student evaluator didn't seem to be relevant to me.	
Although I saw myself as the other person's friend, I was very aware of my role as a student evaluator.	
I realized during the discussion that I was both a friend and a student evaluator.	
I realized during the discussion that my role as a friend conflicted with my role as a student evaluator.	
I realized that my role as a friend might have prevented me from getting what I wanted in the discussion.	
Considering myself as a friend to the other person limited my options for dealing with our disagreements during the discussion.	
I realized during the discussion that my role as a friend constrained my ways of handling our disagreements.	
Viewing myself as a friend to the other person constrained my behaviors when achieving my goals in the discussion.	
Realizing that I was both a friend and a conflict opponent in the disagreement situation made me feel stressed.	
Realizing that I was both a friend and a conflict opponent in the disagreement situation made me feel frustrated.	

I. What things did your discussion partner do or not do during the whole discussion, if any (especially when you were handling your disagreements), that upset you?

1.
2.
3.

J. To what extent did these behaviors you listed above upset you? _____

Not upset at all = 0.
Moderately upset = 100.
Greater number refers to greater level of being upset
There is no highest number: Use any number from zero on up

K. To what extent did these behaviors you listed above make you angry? _____

Not angry at all = 0.
Moderately angry = 100.
Greater number refers to greater level of being angry
There is no highest number: Use any number from zero on up

L. To what extent did these behaviors you listed above make you feel annoyed?
_____

Not annoyed at all = 0.
Moderately annoyed = 100.
Greater number refers to greater level of being annoyed
There is no highest number: Use any number from zero on up

M. To what extent did these behaviors you listed above make you feel irritated?
_____

Not irritated at all = 0.
Moderately irritated = 100.
Greater number refers to greater level of being irritated
There is no highest number: Use any number from zero on up

N. To what extent does each of the following statements reflects your attitude and personality in general (not restricted to the current situation)? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
There have been occasions when I took advantage of someone.	
I have sometimes taken unfair advantage of another person.	
I am always willing to admit when I make a mistake.	
I am quick to admit making a mistake.	
I sometimes try to get even rather than forgive and forget.	
I sometimes feel resentful when I don't get my own way.	
I am always courteous, even to people who are disagreeable.	
I am always a good listener, no matter whom I am talking to.	

O. As stated in the instruction, if the ranking you and your discussion partner come up is the same as your original ranking, you can get 1 more extra point (or the points equivalent to attending another 30-minute study). How important is this 1 extra point to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

P. For the discussion you just finished, to what extent did you suspect the true purpose of the task? _____

No suspicion at all = 0.
Moderately suspicious = 100.
Greater number refers to greater level of suspicion.
There is no highest number: Use any number from zero on up

Q. What was your suspicion? _____

_____

1. My age is	**_____ years.**

2. I am: (Check which one applies):	
	Male
	Female

3. I am the citizen of	**_____ (country).**

4. My native language is	

Check which one(s) apply:	**5. Please indicate your ethnicity**	**Specify ethnic background in categories checked**
	AFRICAN AMERICAN, AFRICAN, BLACK, ETC.	
	HISPANIC, LATINO, MEXICAN AMERICAN, CUBAN AMERICAN, PUERTO RICAN, ETC.	
	ASIAN/CHINESE/JAPANESE AMERICAN, PACIFIC ISLANDER, CHINESE, JAPANESE, KOREAN, ETC.	
	AMERICAN INDIAN, NATIVE AMERICAN	
	CENTRAL ASIAN, INDIAN, PAKISTANI, ETC.	
	ARAB, ARAB AMERICAN, ETC.	
	JEWISH	
	WHITE, CAUCASIAN, EUROPEAN AMERICAN	
	OTHER (PLEASE SPECIFY):	

6. What year are you at the university? (check one)	
	Freshman
	Sophomore
	Junior
	Senior
	Master's
	Doctoral
	Other (Please specify):

7. What is your major in college?	

Thank you for taking time to participate in this study!

Appendix L

Descriptives for Indicators in Pilot Study 3 Before Transformation

Indicators	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Situated Goal 1	77.19	45.04	.568	.414	.674	.809
Situated Goal 2	81.47	43.02	.623	.414	.655	.809
Situated Goal 3	74.09	42.53	.921	.414	1.318	.809
Situated Goal 4	91.09	42.99	.500	.414	1.427	.809
Relational Goal 1	123.16	95.19	1.058	.414	1.027	.809
Relational Goal 2	121.40	82.88	1.430	.414	3.201	.809
Relational Goal 3	109.67	73.31	1.165	.427	1.425	.833
Relational Goal 4	93.30	61.00	1.504	.427	3.670	.833
Role-Embracement 1	111.45	69.21	.618	.421	.513	.821
Role-Embracement 2	122.61	77.14	1.525	.421	4.506	.821
Role-Embracement 3	141.00	72.51	.465	.427	.879	.833
Role-Embracement 4	115.97	69.19	.489	.421	.198	.821
Expectation Violation 1	47.45	96.42	2.508	.421	6.322	.821
Expectation Violation 2	43.55	94.36	2.749	.421	7.551	.821
Expectation Violation 3	43.58	83.19	2.279	.421	4.687	.821
Expectation Violation 4	48.58	87.25	1.991	.421	3.165	.821
Expectation Violation 5	41.81	74.66	2.115	.421	4.370	.821
Disagreement	133.61	62.05	-.149	.421	-1.237	.821
Perceived Conflict	127.42	134.38	1.699	.421	2.507	.821

Note. Disagreement and perceived conflict were not transformed because these two variables were not involved in any statistical analysis.

Appendix L (Continued)

λs Used for Indicators and Descriptives in Pilot Study 1 After Transformation Based on Data Trimmed to the 95% Percentile

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Expectation Violation 1	.1	.52	.76	.833	.421	-1.347	.821
Expectation Violation 2	.1	.54	.756	.699	.421	-1.528	.821
Expectation Violation 3	.1	.62	.66	.529	.421	-1.186	.821
Expectation Violation 4	.1	.60	.77	.535	.421	-1.771	.821
Situated Goal 1	.75	25.03	11.90	-.038	.414	.400	.809
Situated Goal 2	.75	26.33	10.99	.099	.414	.488	.809
Situated Goal 3	.75	24.44	10.92	.387	.414	.675	.809
Situated Goal 4	.75	28.80	10.73	-.063	.414	1.059	.809
Relational Goal 1	.62	18.21	9.75	.209	.414	-.063	.809
Relational Goal 2	.62	18.43	8.44	.207	.414	1.306	.809
Relational Goal 3	.62	17.36	7.77	.187	.427	.772	.833
Relational Goal 4	.62	15.77	6.79	.263	.427	1.679	.833
Role-Embracement 1	.6	15.80	7.20	-.546	.421	.731	.821
Role-Embracement 2	.6	16.93	7.06	-.063	.421	2.133	.821
Role-Embracement 3	.6	18.71	6.57	-.536	.427	1.211	.833
Role-Embracement 4	.6	16.33	6.94	-.497	.421	.544	.821

Note. Item 3 of the expectation violation measure was the average of the original item 3 and item 4 each transformed to the power of .1. Item 4 was the original item 5 of the expectation violation measure.

Appendix M

Questionnaires in the Main Study

[Questionnaire before the Discussion]:

University of Maryland **Date*:_____**

Sorry for the interruption! The University believes that thoughts and behaviors involved in the evaluation process provide additional information regarding why certain recommendations are made. Please take some minutes to answer the following questions regarding your thoughts in the discussion before you proceed. Your answers will be kept anonymous and might be used to evaluate the recommendation you come up with. Thank you!

I. Please read each of the following items carefully and rate each item in terms of your agreement with it using the following scale:

Use a number from 0 (zero) on up to indicate the extent to which you agree with the following statements for each role listed. Zero means you **completely disagree** with the statement for that specific role, and higher numbers represent greater agreement. If you **moderately** agree with the statement, rate the statement as 100; if you agree **twice** as much as a moderate level of agreement, rate the statement as 200; if you agree **half** as much as a moderate level of agreement, rate the statement as 50. Thus,

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I am very concerned about getting what I want in this discussion.	
I care very much about whether I can get what I desire in this discussion.	
It is really important for me to get what I want in this discussion.	
I want to try my best to convince this person.	
I am not willing to risk possible damage to the relationship to get what I want in this task.	
It is very important for me to maintain a good relationship with this person when I handle our disagreements (if any).	
It is more important for me to maintain a harmonious relationship with this person when I handle our disagreement (if any) than getting what I want in this discussion.	

I need to be careful not making the other person mad.	

II. Now, please help us understand your view of your discussion partner. Please note that your discussion partner is your FRIEND. Read each of the following items carefully and rate each item in terms of your thoughts regarding this person AS A FRIEND [*For the low obligation version, the above sentence read as:* Read each of the following items carefully and rate each item in terms of your thoughts regarding this person as a student judge]:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I feel obligated to fulfill the needs and concerns of this person	
I feel obligated to maintain a good relationship with this person	
I feel that I should help this person even if I don't like doing what needs to be done to help him/her.	
I feel that I should always keep in mind that this person is my friend in all situations.	

[Questionnaire after the Discussion]

University of Maryland **Date: _____**

Thank you for participating in the evaluation task! Now, please take some time to answer the following questions to help us understand your experience in the discussion just now. The information you are providing may help us obtain answers for later research purpose. Your answers will be kept anonymous and will not be connected to the evaluation task. Thank you!

A. To what extent did your proposed rankings disagree with that of your discussion partner in the discussion? _____

Use a number from 0 (zero) on up to indicate the extent to which your opinions disagree. Zero means both of you **did not have disagreement at all in the discussion**, and higher numbers represent greater level of disagreement. If you perceived **moderate level of disagreement**, rate 100; if you perceived **twice** as much as a moderate level of disagreement, rate 200; if you agree **half** as much as a moderate level of disagreement, rate 50. Thus,

No disagreement at all = 0.
Moderate level of disagreement = 100.
The greater the level of disagreement, the higher the number should be.
There is no highest number: Use any number from zero on up.

B. How conflictual were your ideas and those of your discussion partner during the discussion? _____

No conflict at all = 0.
Moderate level of conflict = 100.
The greater the level of conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

C. How severe was the conflict? _____

Not severe at all = 0.
Moderate level of severity = 100.
The greater severity of the conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

D. How important was the issue in conflict to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

E. How important was the outcome of the discussion to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

F. How severe was the outcome of your disagreement to you? _____

Not severe at all = 0.
Moderate level of severity = 100.
The greater severity of the conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

G. To what extent did each of the following statements reflect how you handled the conflictual ideas with your friend in the discussion? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I shied away from topics that are sources of disputes.	
I kept quiet about my views in order to avoid disagreements	
I steered clear of disagreeable situations	
I held my tongue rather than argued	
I went fifty-fifty to reach a settlement	
I gave in a little on my ideas when the other person also gave in	
I offered tradeoffs to reach solutions for the disagreement	
I blended my ideas with the other party to create new alternatives for resolving a conflict	
I avoided eye contact with this person after the disagreement occurred.	
I felt reluctant to talk to this person during the task	
I refused to deal with this person about this disagreement.	
I would rather talk to other person regarding the disagreement than dealing directly with this person.	
I argued insistently for my stance	
I asserted my opinion forcefully	
I insisted my position be accepted during the conflict	
I stood firm in my views during the conflict	

H. Now, please try to recall your thoughts during the discussion just now. To what extent did each of the following statements reflect your experience when handling the conflictual ideas with the other person in the discussion? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
I was very concerned about getting what I wanted in the discussion.	
I cared very much about whether I could get what I desired in the discussion.	
It was really important for me to get what I wanted in the discussion.	
I wanted to try my best to convince this person.	
I was not willing to risk possible damage to the relationship to get what I wanted in the task.	
It was very important for me to maintain a good relationship with this person when I handled the conflict/disagreement (if any).	
It was more important for me to maintain a harmonious relationship with this person when I handled our disagreement (if any) than getting what I wanted in this discussion.	
I needed to be careful not making the other person mad.	
I have input much effort into the discussion as a student evaluator.	
I was fully engaged in my role as a student evaluator in this evaluation task.	
I was fully attentive to the evaluation task.	
Nothing distracted me from being a student evaluator in this task.	
I did not expect the other person to behave like the way he/she did (in a negative sense).	
The other person's ways of dealing with our discussion surprised me negatively.	
The other person's behavior in the discussion was not what an individual would do typically as a friend	
The other person's behavior in the discussion was not what an individual would do typically as an objective judge/evaluator.	
This person's behavior during the discussion negatively violated my expectation for him/her.	
I saw myself more as a friend of him/her than a student evaluator in the discussion.	
During the discussion of our disagreement, I talked to the other person as a friend.	
During the discussion, the thought that I was also a friend of this person a part from being a student evaluator didn't seem to be relevant to me.	
Although I saw myself as the other person's friend, I was very aware of my role as a student evaluator.	

I realized during the discussion that I was both a friend and a student evaluator.	
I realized during the discussion that my role as a friend conflicted with my role as a student evaluator.	
I realized that my role as a friend might have prevented me from getting what I wanted in the discussion.	
Considering myself as a friend to the other person limited my options for dealing with our disagreements during the discussion.	
I realized during the discussion that my role as a friend constrained my ways of handling our disagreements.	
Viewing myself as a friend to the other person constrained my behaviors when achieving my goals in the discussion.	
Realizing that I was both a friend and a conflict opponent in the disagreement situation made me feel stressed.	
Realizing that I was both a friend and a conflict opponent in the disagreement situation made me feel frustrated.	

I. What things did your discussion partner do or not do during the whole discussion, if any (especially when you were handling your disagreements), that upset you?

1.
2.
3.

J. To what extent did these behaviors you listed above upset you? _____

Not upset at all = 0.
Moderately upset = 100.
Greater number refers to greater level of being upset
There is no highest number: Use any number from zero on up

K. To what extent did these behaviors you listed above make you angry? _____

Not angry at all = 0.
Moderately angry = 100.
Greater number refers to greater level of being angry
There is no highest number: Use any number from zero on up

L. To what extent did these behaviors you listed above make you feel annoyed? _____

Not annoyed at all = 0.
Moderately annoyed = 100.
Greater number refers to greater level of being annoyed

There is no highest number: Use any number from zero on up

M. To what extent did these behaviors you listed above make you feel irritated?
_____

Not irritated at all = 0.
Moderately irritated = 100.
Greater number refers to greater level of being irritated
There is no highest number: Use any number from zero on up

N. To what extent does each of the following statements reflects your attitude and personality in general (not restricted to the current situation)? Please read each of the following items carefully and rate each item using the following scale:

Completely disagree = 0.
Moderately agree = 100.
The greater the agreement with the statement, the higher the number should be.
There is no highest number: Use any number from zero on up.

Statement	Rating
There have been occasions when I took advantage of someone.	
I have sometimes taken unfair advantage of another person.	
I am always willing to admit when I make a mistake.	
I am quick to admit making a mistake.	
I sometimes try to get even rather than forgive and forget.	
I sometimes feel resentful when I don't get my own way.	
I am always courteous, even to people who are disagreeable.	
I am always a good listener, no matter whom I am talking to.	

O. As stated in the instruction, if the ranking you and your discussion partner come up is the same as your original ranking, you can get 1 more extra point (or the points equivalent to attending another 30-minute study). How important is this 1 extra point to you? _____

Not important at all = 0.
Moderate level of importance = 100.
The greater importance of this conflict, the higher the number should be.
There is no highest number: Use any number from zero on up.

P. For the discussion you just finished, to what extent did you suspect the true purpose of the task? _____

No suspicion at all = 0.
Moderately suspicious = 100.
Greater number refers to greater level of suspicion.
There is no highest number: Use any number from zero on up

Q. What was your suspicion? _____

_____

1. My age is	**_____ years.**

2. I am: (Check which one applies):	
	Male
	Female

3. I am the citizen of	**_____ (country).**

4. My native language is	

Check which one(s) apply:	**5. Please indicate your ethnicity**	**Specify ethnic background in categories checked**
	AFRICAN AMERICAN, AFRICAN, BLACK, ETC.	
	HISPANIC, LATINO, MEXICAN AMERICAN, CUBAN AMERICAN, PUERTO RICAN, ETC.	
	ASIAN/CHINESE/JAPANESE AMERICAN, PACIFIC ISLANDER, CHINESE, JAPANESE, KOREAN, ETC.	
	AMERICAN INDIAN, NATIVE AMERICAN	
	CENTRAL ASIAN, INDIAN, PAKISTANI, ETC.	
	ARAB, ARAB AMERICAN, ETC.	
	JEWISH	
	WHITE, CAUCASIAN, EUROPEAN AMERICAN	
	OTHER (PLEASE SPECIFY):	

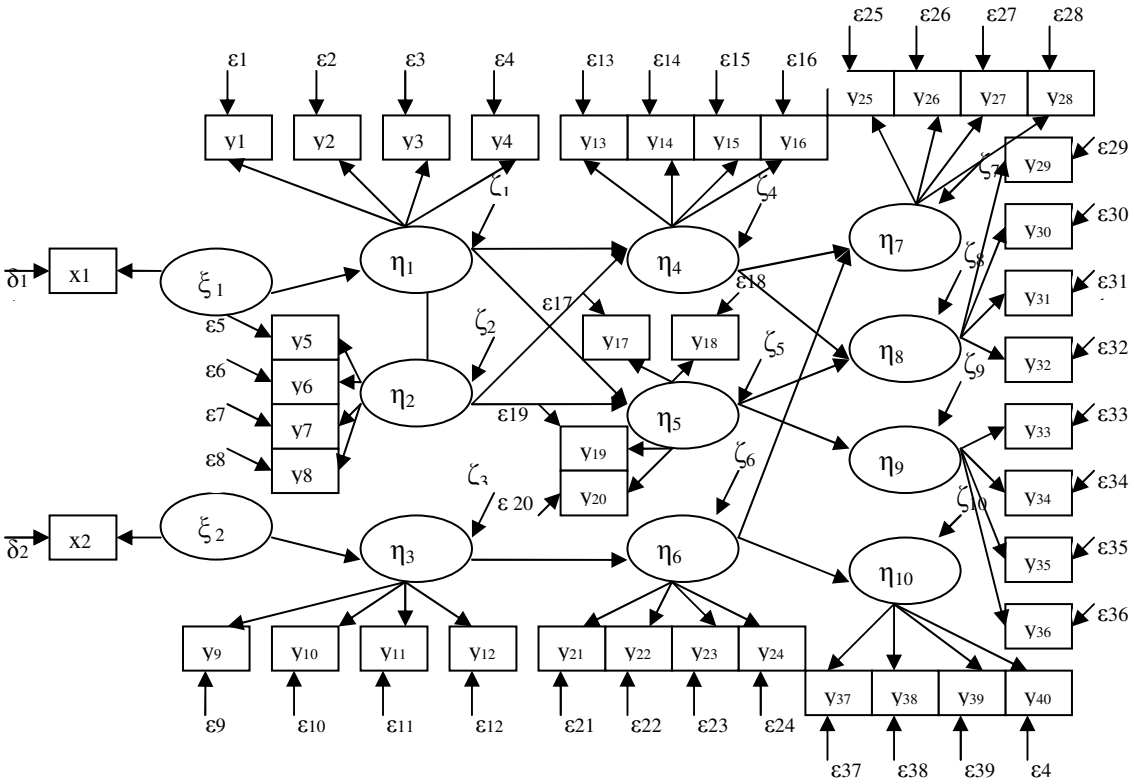
6. What year are you at the university? (check one)	
	Freshman
	Sophomore
	Junior
	Senior
	Master's
	Doctoral
	Other (Please specify):

7. What is your major in college?	

Thank you for taking time to participate in this study!

Appendix N

Model 1: Full Model with Both Measurement and Theoretical Parts



Note. ξ_1 = obligation manipulation; ξ_2 = expectation violation manipulation; η_1 = perceived obligation; η_2 = role embracement; η_3 = perceived expectation violation; η_4 = importance of the situated goal (recall); η_5 = importance of the relational goal (recall); η_6 = anger; η_7 = the use of the dominating conflict strategy; η_8 = the use of the problem-solving conflict strategy; η_9 = the use of the avoiding-the-topic conflict strategy; η_{10} = the use of the avoiding-the-person conflict strategy.

Appendix O

Descriptives for Indicators in the Main Study Before Transformation

Indicators	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Obligation 1	71.78	54.69	1.033	.152	1.823	.303
Obligation 2	95.06	135.64	11.095	.152	153.620	.303
Obligation 3	89.83	80.38	6.085	.152	64.421	.303
Obligation 4	96.94	92.48	4.430	.152	37.008	.303
Role-Embracement 1	118.39	121.72	4.820	.151	30.976	.300
Role-Embracement 2	119.20	92.21	4.330	.151	34.206	.300
Role-Embracement 3	144.77	130.54	4.595	.151	27.059	.302
Role-Embracement 4	137.23	125.89	4.552	.151	27.073	.300
Situated Goal 1	76.33	84.06	5.928	.151	58.279	.302
Situated Goal 2	83.93	104.55	5.879	.151	46.531	.302
Situated Goal 3	73.39	79.36	6.531	.151	71.791	.302
Situated Goal 4	112.98	153.31	8.801	.151	96.974	.302
Relational Goal 1	142.24	460.24	9.563	.151	97.615	.302
Relational Goal 2	154.30	626.28	15.204	.151	239.327	.302
Relational Goal 3	122.66	323.57	13.752	.153	205.512	.304
Relational Goal 4	109.62	319.96	14.322	.153	218.118	.304
Expectation Violation 1	53.62	114.23	5.161	.151	36.632	.300
Expectation Violation 2	40.31	96.98	5.306	.151	40.938	.300
Expectation Violation 3	43.05	97.85	5.111	.151	38.681	.300
Expectation Violation 4	42.15	86.14	6.155	.151	59.807	.300
Expectation Violation 5	36.04	90.09	6.191	.151	55.053	.300
Anger 1	39.16	103.76	6.777	.151	57.172	.300
Anger 2	28.64	99.24	7.723	.151	70.601	.300
Anger 3	51.78	116.89	5.074	.151	34.166	.300
Anger 4	45.56	114.00	5.565	.151	39.202	.300
Avoid the topic 1	42.03	57.07	2.836	.151	15.873	.300

Indicators	Mean	SD	Skewness	Standard Error	Kurtosis	Standard Error
Avoid the topic 2	31.65	63.78	4.266	.151	25.370	.300
Avoid the topic 3	40.70	66.94	3.528	.151	18.812	.300
Avoid the topic 4	42.55	82.45	6.773	.151	70.916	.300
Problem-Solving 1	80.43	97.21	4.315	.151	33.227	.301
Problem-Solving 2	86.15	70.37	1.917	.151	8.369	.301
Problem-Solving 3	91.09	144.57	9.321	.152	118.953	.302
Problem-Solving 4	102.97	99.95	3.727	.152	26.586	.302
Avoid the Person 1	26.97	93.78	8.770	.151	88.398	.300
Avoid the Person 2	24.58	52.13	4.214	.151	28.467	.301
Avoid the Person 3	12.29	32.26	3.451	.151	13.834	.302
Avoid the Person 4	27.80	81.94	7.707	.151	80.689	.300
Dominating 1	56.98	97.39	4.947	.151	37.737	.300
Dominating 2	49.00	56.41	1.672	.151	5.759	.300
Dominating 3	26.59	45.56	2.154	.151	4.716	.300
Dominating 4	81.13	118.48	4.566	.151	28.921	.300
Situated Goal Recall 1	63.76	63.13	2.451	.151	11.251	.300
Situated Goal Recall 1	61.44	59.17	2.646	.151	14.665	.300
Situated Goal Recall 1	60.48	54.54	1.661	.151	5.899	.300
Situated Goal Recall 1	98.69	117.27	5.477	.151	39.030	.300
Relational Goal Recall 1	75.95	105.48	5.649	.151	45.089	.300
Relational Goal Recall 1	86.82	103.55	5.612	.151	45.906	.300
Relational Goal Recall 1	84.12	87.18	5.222	.151	48.253	.300
Relational Goal Recall 1	58.86	52.54	.763	.151	.279	.300
Perceived	215.34	225.57	2.477	.151	5.999	.302
Perceived Conflict	172.74	208.43	2.792	.151	8.145	.300

Note. Disagreement and perceived conflict were not transformed because these two variables were not involved in any statistical analysis.

Appendix P

λs Used for Indicators and Descriptives in the Main Study After Transformation Based on Data Trimmed at 98% Percentile

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Obligation 1	.66	15.31	8.82	-.126	.153	-.357	.304
Obligation 2	.66	17.99	9.33	.030	.153	.318	.304
Obligation 3	.66	17.96	8.69	.012	.153	.822	.304
Obligation 4	.66	18.35	10.26	-.054	.153	-.262	.304
Role-Embracement 1	.51	10.29	4.36	.043	.152	2.017	.302
Role-Embracement 2	.51	10.60	3.93	-.560	.152	1.829	.302
Role-Embracement 3	.51	11.67	3.98	.003	.152	2.606	.303
Role-Embracement 4	.51	11.31	4.01	.153	.152	2.317	.302
Situated Goal 1	.62	12.85	7.46	-.079	.152	-.098	.302
Situated Goal 2	.62	13.36	7.46	.007	.152	.200	.302
Situated Goal 3	.62	12.68	7.10	-.174	.152	-.308	.302
Situated Goal 4	.62	16.73	6.80	.063	.152	.552	.302
Relational Goal 1	.57	11.69	7.12	.094	.152	-.016	.302
Relational Goal 2	.57	13.48	6.79	.277	.152	1.110	.302
Relational Goal 3	.57	12.86	5.72	.093	.153	1.352	.304
Relational Goal 4	.57	11.90	5.56	-.290	.153	.476	.305
Expectation Violation 1	.10	.66	.78	.347	.152	-1.854	.302
Expectation Violation 2	.10	.55	.74	.643	.152	-1.543	.302
Expectation Violation 3	.10	.65	.68	.343	.152	-1.571	.302
Expectation Violation 4	.10	.53	.73	.696	.152	-1.477	.302
Anger 1	.10	.62	.74	.402	.152	-1.806	.302
Anger 2	.10	.44	.682	.947	.152	-1.058	.302
Anger 3	.10	.68	.76	.263	.152	-1.896	.302
Anger 4	.10	.66	.75	.281	.152	-1.881	.302

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Avoid the topic 1	.28	1.79	1.64	-.043	.152	-1.753	.302
Avoid the topic 2	.28	1.27	1.59	.583	.152	-1.421	.302
Avoid the topic 3	.28	1.59	1.66	.223	.152	-1.720	.302
Avoid the topic 4	.28	1.65	1.65	.167	.152	-1.691	.302
Problem-Solving 1	.70	18.20	14.18	.247	.152	-.650	.303
Problem-Solving 2	.70	20.61	12.20	-.104	.152	-.378	.303
Problem-Solving 3	.70	19.57	14.45	.238	.153	-.538	.304
Problem-Solving 4	.70	22.90	13.92	.132	.153	-.229	.304
Avoid the Person 1	.06	.37	.58	.957	.152	-1.081	.302
Avoid the Person 2	.06	.43	.60	.715	.152	-1.487	.303
Avoid the Person 3	.06	.25	.50	1.526	.152	.347	.303
Avoid the Person 4	.06	.39	.59	.877	.152	-1.224	.302
Dominating 1	.35	2.76	2.40	.064	.152	-1.282	.302
Dominating 2	.35	2.86	2.19	-.272	.152	-1.445	.302
Dominating 3	.35	1.65	2.13	.729	.152	-1.070	.302
Dominating 4	.35	3.63	2.28	-.318	.152	-.473	.302
Situated Goal Recall 1	.635	12.19	8.08	.090	.152	-.431	.302
Situated Goal Recall 2	.635	11.94	7.86	-.067	.152	-.581	.302
Situated Goal Recall 3	.635	11.93	7.90	-.011	.152	-.528	.302
Situated Goal Recall 4	.635	16.20	8.62	.223	.152	.936	.302
Relational Goal Recall 1	.62	12.20	8.94	.302	.152	-.021	.302
Relational Goal Recall 2	.62	13.63	7.94	-.205	.152	-.668	.302
Relational Goal Recall 3	.62	13.80	7.65	-.119	.152	-.364	.302
Relational Goal Recall 4	.62	10.80	7.88	-.064	.152	-.973	.302

Note. Item 3 of the expectation violation measure was the average of the original item 3 and item 4 each transformed to the power of .1. Item 4 was the original item 5 of the expectation violation measure.

Appendix P (Continued)

λs Used for Indicators and Descriptives in the Main Study After Transformation Based on Data Trimmed to the 95% Percentile

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Obligation 1	.78	26.15	16.51	.197	.152	-.276	.303
Obligation 2	.78	30.84	17.00	.036	.152	-.299	.303
Obligation 3	.78	30.64	15.66	-.069	.152	-.047	.303
Obligation 4	.78	31.79	18.91	.010	.152	-.686	.303
Role-Embracement 1	.105	11.61	5.09	.207	.151	2.047	.300
Role-Embracement 2	.105	11.99	4.56	-.418	.151	1.691	.300
Role-Embracement 3	.105	13.23	4.69	.145	.151	2.494	.302
Role-Embracement 4	.105	12.84	4.71	.284	.151	2.345	.300
Situated Goal 1	.71	19.03	11.60	.031	.151	-.314	.302
Situated Goal 2	.71	19.79	11.55	.029	.151	-.323	.302
Situated Goal 3	.71	18.87	11.38	.091	.151	-.322	.302
Situated Goal 4	.71	25.09	10.76	-.092	.151	-.201	.302
Relational Goal 1	.793	32.40	21.56	.084	.151	-.951	.302
Relational Goal 2	.793	37.83	20.74	-.072	.151	-.891	.302
Relational Goal 3	.793	35.56	17.85	.003	.153	-.256	.304
Relational Goal 4	.793	32.79	17.90	.080	.153	-.248	.304
Expectation Violation 1	.1	.44	.517	.336	.151	-1.901	.300
Expectation Violation 2	.1	.37	.50	.622	.151	-1.626	.300
Expectation Violation 3	.1	.44	.46	.31	.151	-1.65	.301
Expectation Violation 4	.1	.36	.50	.675	.151	-1.555	.300
Anger 1	.10	.61	.74	.420	.151	-1.794	.300
Anger 2	.10	.43	.67	.956	.151	-1.055	.300
Anger 3	.10	.67	.76	.283	.151	-1.885	.300
Anger 4	.10	.65	.75	.301	.151	-1.871	.300

Indicators	λ	Mean	SD	Skew-ness	Standard Error	Kurtosis	Standard Error
Obligation 1	.78	26.15	16.51	.197	.152	-.276	.303
Obligation 2	.78	30.84	17.00	.036	.152	-.299	.303
Obligation 3	.78	30.64	15.66	-.069	.152	-.047	.303
Obligation 4	.78	31.79	18.91	.010	.152	-.686	.303
Avoid the topic 1	.28	1.77	1.63	-.069	.151	-1.813	.300
Avoid the topic 2	.28	1.25	1.55	.531	.151	-1.570	.300
Avoid the topic 3	.28	1.59	1.65	.190	.151	-1.780	.300
Avoid the topic 4	.28	1.64	1.65	.166	.151	-1.709	.300
Problem-Solving 1	.76	23.62	18.58	.176	.151	-.996	.301
Problem-Solving 2	.76	26.84	16.37	-.098	.151	-.581	.301
Problem-Solving 3	.76	25.24	18.65	.107	.152	-.959	.302
Problem-Solving 4	.76	29.90	18.39	.029	.152	-.629	.302
Avoid the Person 1	.06	.36	.58	.973	.151	-1.051	.300
Avoid the Person 2	.06	.42	.60	.731	.151	-1.466	.301
Avoid the Person 3	.06	.25	.50	1.543	.151	.401	.302
Avoid the Person 4	.06	.38	.58	.893	.151	-1.201	.300
Dominating 1	.35	2.57	2.16	-.210	.151	-1.749	.300
Dominating 2	.35	2.83	2.20	-.246	.151	-1.471	.300
Dominating 3	.35	1.61	2.08	.692	.151	-1.225	.300
Dominating 4	.35	3.32	1.95	-.900	.151	-.823	.300
Situated Goal Recall 1	.70	16.05	11.31	.287	.151	-.310	.300
Situated Goal Recall 2	.70	15.37	10.25	-.193	.151	-1.007	.300
Situated Goal Recall 3	.70	15.57	10.73	.056	.151	-.653	.300
Situated Goal Recall 4	.70	21.31	11.55	-.120	.151	-.440	.300
Relational Goal Recall 1	.72	18.63	13.93	.135	.151	-.892	.300
Relational Goal Recall 2	.72	21.45	13.56	.034	.151	-.708	.300
Relational Goal Recall 3	.72	21.52	12.86	.031	.151	-.563	.300
Relational Goal Recall 4	.72	16.28	12.19	-.093	.151	-1.268	.300

Note. Item 3 of the expectation violation measure was the average of the original item 3 and item 4 each transformed to the power of .1. Item 4 was the original item 5 of the expectation violation measure.

Appendix Q

The Frequency of Involvement of Each Confederate in Each Experimental Condition

			Confederate					
			A	B	C	D	E	Total
Experimental conditions	Lo ob Lo ev	Count	13	15	11	16	10	65
		% within experimental conditions	20.0%	23.1%	16.9%	24.6%	15.4%	100.0%
		% within confedrate	25.5%	28.3%	22.9%	26.7%	22.7%	25.4%
		% of Total	5.1%	5.9%	4.3%	6.3%	3.9%	25.4%
	Lo ob Hi ev	Count	5	14	10	20	10	59
		% within experimental conditions	8.5%	23.7%	16.9%	33.9%	16.9%	100.0%
		% within confedrate	9.8%	26.4%	20.8%	33.3%	22.7%	23.0%
		% of Total	2.0%	5.5%	3.9%	7.8%	3.9%	23.0%
	Hi ob Lo ev	Count	17	10	12	12	11	62
		% within experimental conditions	27.4%	16.1%	19.4%	19.4%	17.7%	100.0%
		% within confedrate	33.3%	18.9%	25.0%	20.0%	25.0%	24.2%
		% of Total	6.6%	3.9%	4.7%	4.7%	4.3%	24.2%
	Hi ob Hi ev	Count	16	14	15	12	13	70
		% within experimental conditions	22.9%	20.0%	21.4%	17.1%	18.6%	100.0%
		% within confedrate	31.4%	26.4%	31.3%	20.0%	29.5%	27.3%
		% of Total	6.3%	5.5%	5.9%	4.7%	5.1%	27.3%
Total		Count	51	53	48	60	44	256
		% within experimental conditions	19.9%	20.7%	18.8%	23.4%	17.2%	100.0%
		% within confedrate	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	19.9%	20.7%	18.8%	23.4%	17.2%	100.0%

Note. Lo = Low; Hi = Hight; ob = Obligation manipulation; ev = Expectation manipulation; "% within experimental conditions" = the percentage of involvement of the confederate in each experimental condition; "% within confederate" = the percentage of the involvement of the confederate in the total participation of the five confederates for that experimental condition. "% of Total" = the percentage of the involvement of the confederate in the overall participation of the five confederates in all the experimental conditions.

Appendix R

Covariance Matrix in LISREL for the Original Model

Covariance Matrix

	ob1	ob2	ob3	ob4	rmb1	rmb2
ob1	174.04					
ob2	49.48	151.09				
ob3	66.54	52.11	211.10			
ob4	71.25	49.19	77.60	192.36		
rmb1	2.11	3.79	1.40	1.51	36.35	
rmb2	0.70	4.61	0.55	1.56	13.27	30.55
rmb3	4.33	6.60	2.35	2.49	12.04	9.99
rmb4	1.86	3.48	0.60	1.42	10.93	10.06
ev1	0.42	0.03	0.51	0.20	0.03	-0.11
ev2	0.42	0.13	0.44	0.05	-0.07	-0.15
ev3	0.20	-0.25	0.29	0.00	-0.18	-0.24
ev4	0.17	-0.49	1.11	0.78	0.38	0.03
pg1	12.95	7.37	7.75	8.77	6.83	3.99
pg2	18.00	6.23	12.13	12.11	8.24	4.64
pg3	14.47	5.92	8.79	7.88	5.71	3.31
pg4	16.74	9.96	8.43	9.79	9.07	7.10
rg1	22.60	5.96	23.46	22.48	-1.23	-0.92
rg2	31.64	22.13	31.31	32.19	3.24	2.93
rg3	23.93	18.80	26.48	26.73	1.26	1.47
rg4	23.28	15.50	21.71	23.46	0.87	0.51
ag1	0.35	-0.15	0.09	0.24	0.32	0.38
ag2	0.51	0.38	0.41	0.34	0.17	0.13
ag3	0.46	0.02	0.11	0.30	0.32	0.36
ag4	0.46	0.59	0.08	0.63	0.04	0.10
do1	3.27	0.69	1.84	0.25	2.92	1.80
do2	2.41	0.76	2.33	0.40	2.24	1.44
do3	-0.62	-0.55	-0.89	-0.13	0.31	0.17
do4	1.84	0.51	1.14	-0.82	2.96	2.36
ps1	14.91	18.83	22.60	17.68	7.82	3.56
ps2	20.49	19.16	25.22	20.00	5.02	6.35
ps3	15.39	17.65	24.35	17.31	11.16	8.29
ps4	10.16	26.81	24.43	18.04	13.05	12.85
av1	3.07	3.53	4.03	3.99	-1.72	-1.16
av2	2.24	2.51	2.80	3.37	-1.32	-0.76
av3	2.69	2.68	2.36	3.48	-1.38	-1.16
av4	1.90	1.65	1.17	2.25	-1.84	-1.30
avp1	0.94	-0.21	0.79	0.98	-0.75	-0.75
avp2	0.68	0.28	0.52	0.77	-0.31	-0.30
avp3	1.10	0.14	0.78	0.78	-0.63	-0.61
avp4	0.05	-0.61	0.14	-0.15	-0.29	-0.55
obm	3.67	2.17	6.41	3.96	-0.62	-0.89
evm	1.11	1.13	1.55	1.51	-0.43	-0.27

Covariance Matrix

	rmb3	rmb4	ev1	ev2	ev3	ev4
rmb3	29.87					
rmb4	10.93	31.06				
ev1	-0.04	-0.05	1.19			
ev2	-0.09	-0.16	0.42	1.06		
ev3	-0.23	-0.23	0.38	0.38	1.11	
ev4	0.11	0.24	0.56	0.44	0.50	2.00
pg1	4.04	3.52	0.97	0.68	0.88	0.13
pg2	5.33	3.89	0.89	0.36	0.78	-0.71
pg3	3.46	3.09	0.79	0.69	0.78	-0.36
pg4	6.96	6.39	0.54	0.59	0.37	0.05
rg1	-2.80	-3.52	1.19	0.94	0.96	1.97
rg2	0.87	1.42	0.36	0.35	-0.01	-0.86
rg3	0.64	1.37	0.12	0.15	0.07	-0.10
rg4	1.15	0.61	0.41	0.31	0.10	0.09
ag1	0.14	0.21	0.22	0.25	0.18	0.27
ag2	0.18	0.08	0.21	0.24	0.18	0.17
ag3	0.25	0.20	0.25	0.27	0.18	0.25
ag4	-0.08	0.01	0.42	0.37	0.30	0.68
do1	2.27	2.30	0.50	0.56	0.47	0.90
do2	1.36	1.45	0.44	0.54	0.55	0.88
do3	-0.24	-0.08	0.24	0.28	0.28	0.47
do4	2.34	3.05	0.38	0.35	0.37	0.82
ps1	2.43	4.72	-0.78	-0.39	-0.68	-0.04
ps2	8.50	6.39	-0.49	-0.84	-0.83	2.79
ps3	9.86	8.49	0.16	0.05	-0.61	2.52
ps4	9.62	8.38	-1.63	-1.37	-2.12	0.79
av1	-1.16	-1.29	0.18	0.11	0.13	0.51
av2	-0.82	-0.61	0.20	0.16	0.20	0.56
av3	-1.01	-1.26	0.22	0.13	0.10	0.56
av4	-1.41	-1.41	0.28	0.23	0.24	0.60
avp1	-1.19	-0.96	0.52	0.40	0.45	0.40
avp2	-0.35	-0.29	0.15	0.12	0.10	0.31
avp3	-0.94	-0.63	0.35	0.36	0.40	0.56
avp4	-0.63	-0.32	0.47	0.36	0.34	0.50
obm	-0.33	-0.28	-0.06	0.02	-0.03	0.13
evm	-0.53	-0.06	0.38	0.39	0.32	0.59

Covariance Matrix

	pg1	pg2	pg3	pg4	rg1	rg2
pg1	113.39					
pg2	47.05	115.52				
pg3	45.65	46.16	101.45			
pg4	34.92	35.21	33.46	97.03		
rg1	4.53	6.86	2.82	2.92	103.78	
rg2	7.55	7.57	7.39	8.64	20.15	93.51
rg3	0.37	2.90	2.24	2.81	17.13	26.13
rg4	9.10	10.44	8.33	8.35	14.35	18.46
ag1	0.59	0.70	0.76	1.15	0.17	-0.04
ag2	0.31	0.56	0.58	0.73	-0.02	0.05
ag3	0.54	0.62	0.78	1.23	0.23	-0.04
ag4	0.64	1.01	1.03	2.10	-0.63	-0.15
do1	4.62	5.38	5.46	5.08	1.61	-0.08
do2	3.61	3.57	3.67	3.86	1.08	-0.24
do3	2.20	1.82	2.29	1.47	-0.70	-0.43
do4	4.83	5.45	5.25	5.19	0.85	0.92
ps1	6.28	7.09	4.52	4.72	14.32	15.59
ps2	-4.12	-0.98	-5.24	3.98	9.31	4.55
ps3	1.24	1.55	-2.75	2.37	10.47	7.21
ps4	5.59	0.73	1.62	10.47	1.41	9.43
av1	-0.31	-0.71	-0.54	-1.30	1.30	1.15
av2	0.35	-0.61	-0.68	-0.80	1.50	0.99
av3	-0.41	-0.66	-0.54	-0.83	0.54	0.58
av4	-0.18	-0.63	-0.67	-0.49	1.07	0.32
avp1	0.57	0.55	0.91	-0.17	1.51	0.51
avp2	0.89	0.61	0.62	0.17	0.46	0.35
avp3	1.51	1.83	1.80	0.36	1.50	0.81
avp4	1.65	1.43	1.53	1.35	-0.18	-0.17
obm	-0.61	-0.65	-0.19	-0.25	1.43	0.88
evm	0.40	0.35	0.28	0.33	1.43	0.67

Covariance Matrix

	rg3	rg4	ag1	ag2	ag3	ag4
rg3	66.15					
rg4	19.12	61.24				
ag1	-0.03	-0.07	1.09			
ag2	-0.05	-0.07	0.37	0.89		
ag3	-0.05	-0.03	0.45	0.38	1.15	
ag4	-0.39	-0.09	0.71	0.62	0.72	2.00
do1	-0.76	0.02	0.58	0.50	0.64	1.25
do2	-0.63	-0.27	0.52	0.51	0.56	1.19
do3	-0.87	-0.63	0.33	0.28	0.29	0.57
do4	0.07	-0.02	0.51	0.39	0.51	0.86
ps1	15.76	2.89	-1.25	-0.75	-0.98	-3.77
ps2	12.32	6.58	-0.31	-0.31	-0.18	-2.18
ps3	12.18	9.32	0.12	0.06	0.63	-2.32
ps4	15.92	6.33	-1.13	-1.16	-0.43	-3.24
av1	1.91	2.09	0.03	0.09	0.02	0.28
av2	1.73	1.39	0.03	0.10	0.05	0.20
av3	1.51	1.58	0.06	0.13	0.07	0.33
av4	0.86	1.05	0.04	0.11	0.08	0.11
avp1	0.60	1.25	0.16	0.30	0.21	0.21
avp2	0.09	0.19	0.08	0.07	0.06	0.09
avp3	0.34	0.19	0.13	0.19	0.14	0.28
avp4	-0.01	0.00	0.38	0.27	0.35	0.50
obm	1.21	0.95	0.05	0.02	0.01	0.09
evm	0.34	0.33	0.33	0.26	0.31	0.56

Covariance Matrix

	do1	do2	do3	do4	ps1	ps2
do1	11.55					
do2	3.27	9.46				
do3	1.34	1.04	2.00			
do4	3.16	2.36	1.07	10.75		
ps1	0.50	1.11	-1.81	-0.06	399.36	
ps2	-1.10	1.19	-0.94	0.09	90.05	301.42
ps3	0.48	3.14	0.32	-1.19	107.08	99.80
ps4	-2.67	-1.14	-0.52	-2.26	97.86	71.08
av1	-0.51	0.03	0.02	-0.74	1.19	3.00
av2	-0.58	-0.04	0.05	-0.56	1.18	3.00
av3	-0.58	-0.11	0.27	-0.80	1.58	2.69
av4	-0.49	-0.13	0.16	-0.75	2.04	2.06
avp1	1.09	0.88	0.29	0.78	0.87	-0.22
avp2	0.11	0.22	0.21	0.05	0.26	0.46
avp3	0.70	0.71	0.34	0.35	0.25	0.17
avp4	1.01	0.72	0.41	0.84	-0.87	-1.59
obm	-0.05	-0.05	0.02	0.00	1.02	0.75
evm	0.40	0.49	0.20	0.13	-2.42	-3.25

Covariance Matrix

	ps3	ps4	av1	av2	av3	av4
ps3	390.82					
ps4	111.76	382.74				
av1	4.58	1.47	5.37			
av2	4.57	1.64	1.63	4.92		
av3	3.77	0.56	1.77	1.66	5.42	
av4	3.45	0.95	1.52	1.73	1.73	5.40
avp1	0.68	-1.67	0.62	0.73	0.75	0.59
avp2	0.61	-0.76	0.36	0.33	0.44	0.42
avp3	1.81	-3.05	0.67	0.71	0.81	0.80
avp4	-0.17	-4.22	0.46	0.37	0.49	0.43
obm	1.23	0.20	0.13	0.05	0.00	-0.04
evm	-2.23	-3.02	0.01	0.16	0.05	0.18

Covariance Matrix

	avp1	avp2	avp3	avp4	obm	evm
avp1	2.00					
avp2	0.40	0.71				
avp3	0.73	0.44	2.00			
avp4	0.65	0.41	0.75	2.00		
obm	-0.14	-0.04	-0.11	0.09	2.00	
evm	0.19	0.10	0.35	0.30	0.09	2.00

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